TABLE OF CONTENTS

Four-Year Integrated B.Sc.B.Ed. and B.A.B.Ed. Programme Regulations

1. DURATION AND WORKING DAYS: ...................................................................................... I
2. INTAKE, ELIGIBILITY AND ADMISSION PROCEDURES .................................................. I
   2.1 ELIGIBILITY ................................................................................................................ I
   2.2 ADMISSION PROCEDURE: .......................................................................................... I
3. ELIGIBILITY FOR ADMISSION TO EXAMINATION ............................................................. II
4. SEMESTER WISE COURSE STRUCTURE - B.SC.B.ED AND B.A.B.ED .............................. II
   SEMESTER WISE COURSE STRUCTURE ....................................................................... III
5. CHOICE OF PEDAGOGICAL SCHOOL SUBJECTS I & II ..................................................... VI
6. CURRICULUM, PROGRAMME IMPLEMENTATION AND ASSESSMENT ............................ VI
7. A. TASK AND ASSIGNMENT RELATED TO THEORY COURSES IN GENERAL STUDIES .... VI
8. SCHOOL INTERNSHIP ........................................................................................................ VII
9. OTHER PRACTICAL ACTIVITIES RELATED TO COMMUNITY BASED ENGAGEMENT ........ VII
10. SCHEME OF EXAMINATION ......................................................................................... VIII
11. PATTERN OF QUESTION PAPER FOR UNIVERSITY EXAMINATION ............................ X
12. DISTRIBUTION OF MARKS FOR CONTINUOUS AND COMPREHENSIVE EVALUATION (CCE) FOR BOTH GENERAL AND PROFESSIONAL STUDIES .................................................. X
13. A. CONDUCTING OF PRACTICAL EXAMINATION FOR GENERAL STUDIES IN SCIENCE (B.SC.B.ED) .......................................................................................... XI
   B. CONDUCTING OF PRACTICAL EXAMINATION FOR PROFESSIONAL STUDIES (B.SC.B.ED AND B.A.B.ED) .................................. XI
14. PASSING MINIMUM IN GENERAL STUDIES AND PROFESSIONAL STUDIES ................ XI
15. CLASSIFICATION OF SUCCESSFUL CANDIDATES ................................................................ XII
PONDICHERY UNIVERSITY
REGULATIONS (2017 – 18 onwards)

The four year integrated programme aims at integrating general studies (three year liberal Science –B.Sc and Arts - B.A) comprising science(B.Sc.B.Ed.) and social sciences or humanities (B.A.B.Ed.), and professional studies(2 year B.Ed) comprising foundations of education, pedagogy of school subjects, and practicum related to the tasks and functions of a school teacher. It maintains a balance between theory and practice, and coherence and integration among the components of the programme, representing a wide knowledge base of a secondary school teacher. The programme aims at preparing teachers for upper primary and secondary stages of education.

1. Duration and Working Days:

1.1 Duration

The B.Sc.B.Ed and B.A.B.Ed programmes shall be of four academic years or eight semesters including school based experiences and internship in teaching. Student teachers shall, however, be permitted to complete the programme within a maximum period of six years from the date of admission to the programme.

1.2 Working Days

a) In a year, there shall be at least two hundred and fifty working days per year excluding the period of examination and admission.

b) A working day will be of a minimum of 5-6 hours adding up to a minimum of 36 hours per week. The institution shall ensure the availability of teachers and students for consultation and mentoring- providing group or individual guidance.

c) The minimum attendance of student-teachers shall have to be 80% for all course work and practicum, and 90% for school internship

2. Intake, Eligibility and Admission Procedures

There shall be a basic unit of fifty (50) students. Initially two units may be permitted with approval of NCTE. The university may prescribe distribution of students for different subjects.

<table>
<thead>
<tr>
<th>No.</th>
<th>Subject Studied in Higher secondary level / Senior secondary level both in academic and vocational stream</th>
<th>Pedagogical subject 1 [Subject to be majored at B.Sc.B.Ed/B.A.B.Ed. degree level]</th>
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<tbody>
<tr>
<td>1</td>
<td>Mathematics and any other 3 science subjects</td>
<td>Mathematics(B.Sc.B.Ed.)</td>
</tr>
<tr>
<td>2</td>
<td>Indian language, English and any other core subjects</td>
<td>Language Education (English)-(B.A.B.Ed.)</td>
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</table>

2.1 Eligibility

a. Candidates with at least 50% marks in the senior secondary/ +2 or its equivalent are eligible for admission.

b. The reservation and relaxation in marks for SC/ST/OBC/PWD and other category shall be as per the rules of Puducherry Government

2.2 Admission procedure:
a. Admission shall be made on merit on the basis of marks obtained in the qualifying examination and in the entrance examination or any other selection process as per the policy of the U.T administration.

b. At the time of admission to the programme, the student will need to indicate their selection of the subjects to be pursued for the discipline options and the accompanying pedagogic specializations for which they are applying, and these may be assigned on the basis of order of merit and availability.

3. Eligibility for Admission to Examination

The University examination for the B.Sc.B.Ed and B.A.B.Ed degree programme shall be of eight semesters including school based experiences and internship in teaching. A student teacher shall be admitted to the examination only if (i) he/she has undergone the prescribed course of the study - both theory and practicum including school internship satisfactorily; and (ii) having put in not less than 80% of attendance for all course work and practicum and 90% of attendance for school internship in each year.


For every B.Sc.B.Ed., B.A.B.Ed., Science and Arts Education, 22 core courses from the present curriculum are identified and they must be completed in the 8 semesters.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Core Course</th>
<th>4.1 B.Sc.B.Ed (Maths)</th>
<th>4.2 B.A.B.Ed Language Education (English)</th>
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<tr>
<td>I</td>
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<td>Algebra and Trigonometry - I</td>
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<td>Vector Analysis and Geometry - I</td>
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<td>(S)Social History Of England</td>
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<td>II</td>
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<td>Vector Analysis and Geometry -II</td>
<td>Shakespeare - I</td>
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<td>8</td>
<td>(S) Physics-II &amp; Physics Practical -II</td>
<td>(S)Literary Forms</td>
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<td>9</td>
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<td>Introduction to English Language</td>
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### Semester Wise Course Structure

#### FIRST YEAR - SEMESTER I

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<th>Reading and Reflecting on Texts</th>
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### THIRD YEAR - SEMESTER VI

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FOURTH YEAR - SEMESTER VIII

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<td></td>
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Any one of the following courses may be chosen by the Student Teacher from the educational optional

i. Special Education
ii. Population Education
iii. Guidance and Counselling
iv. Environmental Education
v. Human Resource Development
vi. Value Education
vii. Non Formal Education
viii. Disaster Management
ix. Women Education
x. Human Rights Education

5. Choice of Pedagogical School Subjects I & II

<table>
<thead>
<tr>
<th>No.</th>
<th>Subject Studied in Higher secondary level / Senior secondary level both in academic and vocational stream</th>
<th>Pedagogical subject I [Subject major at B.Sc.B.Ed / B.A.B.Ed degree level]</th>
<th>Pedagogical subject II</th>
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<tbody>
<tr>
<td>1</td>
<td>Mathematics and any other 3 science subjects</td>
<td>Mathematics(B.Sc.B.Ed.)</td>
<td>Language II - Tamil</td>
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<td></td>
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<td>Language II - English or Physical Science</td>
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<td>English and any other core subjects</td>
<td>English (B.A.B.Ed.)</td>
<td>Language II - English</td>
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6. Curriculum, Programme Implementation and Assessment

The programme comprises two broad curricular areas: general studies comprising science (B.Sc.B.Ed.) / social sciences or humanities (B.A.B.Ed.), and professional studies comprising foundations of education, pedagogy of school subjects, and practicum related to the tasks and functions of a school teacher.

The transaction of the courses, apart from lecture cum discussion may comprise of variety of approaches, case studies, reading of original writings, discussion on reflective journals, observations of children, and interaction with the community in different socio-cultural environments.

7. a. Task and Assignment related to theory courses in general studies
As explained in the respective course

b. Task and Assignment related to theory courses in professional studies

The curricular areas of ‘Perspectives in Education’ and ‘Curriculum and Pedagogic Studies’ shall offer field engagement through different tasks and projects with the community, the school, and the child in school and out-of-school, based on the practical activities listed in the respective syllabus for the theory courses. Continuous and Comprehensive Evaluation will be made based on submission of documentary evidences either by individual student or group work for each of the theory courses.

However, for each of the theory courses of the curricular area of “Curriculum and Pedagogic Studies”, the practical activities shall include practicing at least three teaching skills relevant to the pedagogical subject in Micro-teaching context during 5th or 6th semester. Similarly, for the course on “Assessment for Learning”, the practical activities shall include preparation, administration and interpretation of results of tests and different evaluation techniques in the 8th semester.

8. School Internship

i. School internship would be a part of the broad curricular area of ‘engagement with the field’ and shall be designed to lead to the development of a broad repertoire of perspectives, professional capacities, teacher sensibilities and skills.

ii. During internship in the third year, student teachers shall spend 4 weeks, spread over several days throughout 5th Semester. This will include one week of school engagement making observation in the school and three weeks of other engagements as explained in the syllabus. The observation record and/or project report of the student teacher should be the base for awarding CCE marks by the faculty.

iii. During the third and fourth year, out of 16 weeks of internship, student teachers will devote one week for observation of classes taken by regular school teachers (at least 5 lessons in each pedagogical subject). The student teachers will devote 15 weeks for classroom teaching which may be in one block or in two blocks, (in one or two different schools) in 6th and 7th semester. However, the classroom teaching during internship shall be done at any two levels/stages of school. The internship must be both at upper primary (classes VI-VIII) and secondary (classes IX and X) levels. During the internship student teachers will also be engaged in making observation of classes taught by regular teacher (whenever possible) and the peer teachers.

iv. The internship should be in government recognized schools under Government or private managements, situated within the radius of 40 km of the College of Education concerned for supervision by the faculty members of the college. The schools under CBSE or State / UT patterns can be the schools for internship.

v. The student teacher during internship in a school should perform the roles of a regular teacher at the respective level under the direct guidance and supervision of the mentoring teacher (Supervising / Guide Teacher) of the school. While at school, the student teacher shall prepare the necessary teaching resources and records for teaching lessons (duration of 45 minutes each).

vi. The total 60 lessons of classroom teaching in 15 weeks may be divided as 30 at level one (15 lessons for Pedagogical Subject I and 15 lessons for Pedagogical Subject II) and 30 at level two (15 lessons for Pedagogical Subject I and 15 lessons for Pedagogical Subject II). A few lessons may be ICT based depending on resources available in the practicing schools.

vii. During this period, (i) classroom teaching (ii) evaluation at the end of 15 lessons and (iii) diagnosis based feedback to the students should be completed by every student teacher.

9. Other practical activities related to community based engagement

A minimum of 5 days shall be spent for Community Living Camp to foster social skills and values among student teachers during the 5th semester.
10. Scheme of examination

### FIRST YEAR - SEMESTER I

<table>
<thead>
<tr>
<th>Title of the Course</th>
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<th>Hours</th>
<th>CCE*</th>
<th>UE**</th>
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Total 750

### FIRST YEAR - SEMESTER II

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<th>UE**</th>
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Total 200

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Total 800

### SECOND YEAR - SEMESTER IV

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**THIRD YEAR - SEMESTER V**

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<tr>
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<td>Theory Edn I(C&amp;PS)</td>
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<td>Theory Edn I(C&amp;PS)</td>
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**THIRD YEAR - SEMESTER VI**

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**FOURTH YEAR - SEMESTER VII**

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**FOURTH YEAR - SEMESTER VIII**

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11. Pattern of question paper for University Examination

Full Courses: 70 marks - 3 hours

- 2 questions of 10 marks each = 20 (Answer 2 Questions out of 4 with internal choice)
- 6 questions of 5 marks each = 30 (Answer 6 Questions out of 10)
- 10 questions of 2 marks each = 20 (Answer 10 Questions out of 10)

Half Courses: 35 marks - 2 hours

- 1 question of 10 marks = 10 (Answer 1 Question out of 2)
- 3 questions of 5 marks each = 15 (Answer 3 Questions out of 5)
- 5 questions of 2 marks each = 10 (Answer 5 Questions out of 5)

12. Distribution of marks for Continuous and Comprehensive Evaluation (CCE) for both general and professional studies.

(i) For theory courses:

The CCE weightage for continuous internal assessment tests and task & assignment projects should be equal i.e. 5 marks for a periodical test and 5 marks for a project. There should be at least three tests and three projects for a full course and two tests and one project for a half course.

(ii) For Courses on Enhancing Professional Capacities (EPC):

The following specialised courses are offered to enhance the professional capacities of student teachers.

- Course EPC 1: Reading and Reflecting on Texts
- Course EPC 2: Drama and Art in Education
- Course EPC 3: Critical Understanding of ICT
- Course EPC 4: Understanding the Self
- Course EPC 5: Soft skill

The evaluation of student teachers for these courses shall be totally internal. The total of 50 marks allotted to each of the courses is assigned as follows.

- Periodical tests based on the prescribed syllabus (at least two) - 10 Marks
- Assessment based on at least 4 of the tasks and assignments listed under the course outline - 10 x 4 = 40.

(iii) Yoga, Health & Physical Education:

The evaluation of student teachers for the above course in first and seventh semester shall be totally internal. The total of 50 marks allotted to each of the semester is assigned as follows.

- Periodical tests based on the prescribed syllabus (at least two) - 10 Marks
- Assessment based on at least 4 of the tasks and assignment listed under the course outline - 10 x 4 = 40.

(iv) For Teaching Competency (During School Internship):

The different aspects of practicum and weightage marks for each of the Pedagogical Subjects I and II. The total of 100 marks allotted is as follows

- Teaching Competency (Planning and Performance) - 50 Marks
- Preparation of Teaching Resources, (Including ICT based) - 20 Marks
- Lesson observation record (Peer and Regular teacher) - 10 Marks

Evaluation, Diagnosis and Remedial programme (Record) 20 Marks

13. a. Conducting of practical examination for general studies in science (B.Sc.B.Ed)

As stated in the respective course

b. Conducting of practical examination for professional studies (B.Sc.B.Ed and B.A.B.Ed)

i. Based on the periodical assessment of the teaching competency and other practical aspects of the student teachers, the internal assessment marks will be assigned by the faculty of the concerned pedagogical subject. The consolidated CCE marks in the prescribed format will be sent to the university by the Principal of the college concerned before the commencement of the practical examination.

ii. On receipt of the CCE marks from any college of education, the University will make arrangement for conducting the practical examination by appointing the Board of Examiners.

iii. Board of examiners for practical examination consisting of one Convener and three examiners for one unit (50 student teachers) and one Convener and seven examiners for two units (100 student teachers) will be chosen from among the faculty members of the Colleges of Education/ University Department of Education from within and outside university jurisdiction who possess a minimum of five years of teaching experience at B.Ed. /M.Ed. level. The Convener must be from among the Principals / Associate Professors of the Colleges of Education. The Principal of the respective College of Education will be the ex-officio member of the panel.

iv. The practical examination will be conducted for two to three days after the completion of internship in the 8th semester.

v. The practical examination should be conducted by two examiners acting as a pair and to assess the student teachers on following aspects of both pedagogical subjects:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Aspects for Assessment</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Assessment during practical examination:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teaching Competencies (Planning and Performance)</td>
<td>50</td>
</tr>
<tr>
<td>B.</td>
<td>Assessment of record maintained during internship:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. Preparation of Teaching Resources (Including ICT based)</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>ii. Lesson Observation Record (Peer and Regular teacher)</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>iii. Lesson plans</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>iv. Evaluation and Remediation Record</td>
<td>10</td>
</tr>
<tr>
<td>C.</td>
<td>Viva – Voce</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

vi. The examiners should submit the marks separately to the convener and the board of examiners should consolidate the marks.

vii. The practical examination marks awarded by the individual examiners and the consolidated marks list should be submitted to the Controller of Examinations, Pondicherry University on the final day of the practical examination itself with the signatures of all the members.

viii. The faculty observer of the Pondicherry University shall be present during the practical examination.

ix. The practical examination for all student teachers shall be conducted in a recognised high / higher / senior secondary school and the verification of records in the concerned college.

14. Passing Minimum in general studies and professional studies
i. Every student teacher should register for all the courses in the theory examination and practical examination in the first attempt.

ii. A student teacher shall be declared to have passed in the B.Sc.B.Ed/B.A.B.Ed Degree examination only if he/she has passed both the theory and practical examination.

iii. A student teacher shall be declared to have passed in the theory examination if he/she obtains a minimum of 45% marks both in External Examination (32 out of 70) and CCE (14 out of 30) and a total of 50 marks by combining both external (EE) and internal (CCE) examination in each full course. In the case of half course, a minimum of 45% marks both in External Examination (16 out of 35) and CCE (7 out of 15) and a total of 25 marks by combining both external (EE) and internal (CCE) examination.

iv. A student teacher shall be declared to have passed the practical examination if he/she obtains a minimum of 45% marks in the pedagogical subject and in each of other aspects of practical examination mentioned above and 50% marks by combining all the aspects taken together.

v. A student teacher who fails in one or more courses in the theory examination in general studies and professional studies shall reappear in those course(s). But the one who fails in any one of the aspects of the practical examination shall reappear for all aspects.

vi. The integrated B.Sc.B.Ed/B.A.B.Ed degree programme should be completed by the student teachers in not more than 6 years from the date of admission to the programme.

15. Classification of successful candidates

All successful student teachers shall be classified as follows.

<table>
<thead>
<tr>
<th>Examination (out of 6050 marks)</th>
<th>Class to be awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>3630 and above</td>
<td>FIRST CLASS (≥ 60% of Grand Total)</td>
</tr>
<tr>
<td>3025 to 3629</td>
<td>SECOND CLASS (≥ 50% to &lt; 60% of Grand Total)</td>
</tr>
</tbody>
</table>
FIRST YEAR - SEMESTER I
Course - 1: FOUNDATION I-1
Course -1(i): FOUNDATION I-1 - TAMIL

Theory Credits 4

1. கலின்று திறச்சிறம்
2. ருப்பாலிப் திறச்சிறம்
3. புரட்டச்சிறம்
4. ஆசிரியர் வருவாய் (கலின்று, ருப்பாலிப், புரட்டச்சிறம்)

இயற்கை திறச்சிறம்

1. தமிழ் - கலின்று பாரியல்
2. வரலாற் வாழ்பாடு - கலின்று வளர்ச்சி அறிவியல் பாரியல்
3. இலங்கை மனிதியாற்றியல் - பாரியல் விவசாயியாற்றியல்
4. முக்கியமான சேவைக்கள் - கலின்று விவசாயியாற்றியல்
5. பசைஉதிய கல்லாற்று - கலின்று நன்றாற்று
6. கிளையாடு கிளையாடு - கலின்று புரட்டச்சிறம்
7. இவ்விலையாய் பாரியல் - பாரியல் விவசாயியாற்றியல்
8. நூற்றாண்டு பாரியல் - கலின்று வாழ்பாடு
9. சேவைக்கள் முன்னாண்டு - பாரியல் விவசாயியாற்றியல்
10. புரட்டச்சிறம் பொருளாதாரம் - பாரியல்

இயற்கை திறச்சிறம்

1. பாரியல் - பாரியல்
2. பாரியல் முன்னாண்டு
3. பாரியல் விவசாயியாற்றியல்
4. பாரியல் விவசாயியாற்றியல்
5. பாரியல் விவசாயியாற்றியல்

நுண்டை திறச்சிறம்

1. பாரியல் - கலின்று பாரியல்
2. பாரியல் முன்னாண்டு - பாரியல்

நுண்டை வருவாய்

பாரியல் ஹாற்றான திறச்சிறம் வருவாய் - பாரியல் ஹாற்றான, பாரியல் ஹாற்றான, துணை, இலங்கை, இலங்கை ஹாற்றான ஹாற்றானைச் சேர்க்காமல் ஒலியுடைத்து திறச்சிறமான வருவாய் விவசாயியாற்றியல்

பாரியல்.
Course -1(ii): FOUNDATION I-1 - FRENCH
Theory

Course -1(iii): FOUNDATION I-1 - MALAYALAM
Theory

Course -1(iv): FOUNDATION I-1 - TELUGU
Theory

Course -1(v): FOUNDATION I-1 - HINDI
Theory

Syllabus yet to be prepared for the Course -1(ii) to Course -1(v)
Course – 2: FOUNDATION II-1       ENGLISH

Theory

Credits 4

Essence of the course:

This course adopts a Multi skill approach towards teaching English for undergraduate students. Keeping in view the principles of Language Learning and Teaching, the course adopts an Interactive approach to teaching the language. It also aims to equip the learners with skills of self learning.

Objectives:
1. To develop Communicative skills of the learners in listening, speaking, reading and writing.
2. To enable the learners to use English in real-life situations.
3. To use grammatical structures in speech and writing
4. To develop fluency in conversation and efficiency in interactional skills.

CONTENT OUTLINE

Unit I
1. The Lost Child-Mulk Raj Anand
2. My Early Days-Abdul Kalam
3. Tenses
4. Relative Clauses

Unit II
1. Affliction of Margaret-William Wordsworth
2. The Model Millionaire-Oscar Wilde
3. Précis Writing
4. If Clause
4. Combining sentences

Unit III
1. The Two gentlemen of Verona-William Shakespeare
2. Punishment in Kindergarten-Kamala Das
3. Poetic License
4. Direct and reported speech

Unit IV
1. The Second crucifixion-Larry Collins and Dominique Lapierre
2. Mirror-Sylvia Plath
3. Preposition

Unit V

1. Note Making
2. Group Discussions
3. Summarize the passage

Mode of Transaction:
   Lecture, Discussion, Project.

Practicum: Task and Assignment

1. Impressions on the season given by Mulk Raj Anand in, “The lost child”, Discuss
2. Appreciate the love of the mother in the affliction of the Margaret by William Wordsworth
3. Collect some information on Non-Violence movement in the lesson, “The second Crucifixion”
4. Discuss in groups the sacrifice made by the boys in, “Two gentle men of Verona”.
5. Collect pictures of Abdul Kalam at various stages in his life.

Mode of Assessment:
Written test, Task and Assignment

Reference:

1. Impressions 1. A Multiskill Course in English by Geetha Rajeevan and G. Radhakrishna Pillai

2. Essential English Grammar – A self study reference and practice book for elementary students
   of English with Answers by Raymond Murphy second edition: Cambridge University press (unit 1-57)
SEMESTER - I

CORE 1 - ALGEBRA AND TRIGONOMETRY - I

Essence of the course:
This course provides to study about Algebra and Trigonometry. The focus of the course will be the study of matrices, linear equations, polynomial equation, Transformation of equations and hyperbolic functions. At end of the course students will describe the fundamental principles including the laws and theorems arising from the concepts covered in this course.

Objectives: At the end of the course the student teachers will be able to
- acquire knowledge of terms and concepts used in Algebra and Trigonometry.
- understand arithmetic, equations, matrices and trigonometry.
- apply the algebra related to the other field like physics, chemistry etc.
- develop the skills to solves problems based on algebra and trigonometry.
- develop interest on algebra and other higher algebra
- develop the power of original and creative thinking.

CONTENT OUT LINE

Unit-I

Unit-II

Unit-III

Unit-IV
De Moivre’s Theorem. Deductions from De Moivre’s Theorem and its applications.

Unit-V
Trigonometry: -Hyperbolic functions. Inverse circular and Inverse Hyperbolic functions.

Mode of transaction of the course
Lecture method, Discussion method, Seminar, Project work.

Practicum activities: Task and Assignment
Two questions from each unit

Mode of Assessment
Written test and Task and assignment

Text books:

Reference Books:
CORE 2 - CALCULUS I

Essence of the course:
This course is designed to develop the topics of differential and integral calculus. Emphasis is placed on limits, continuity, derivatives and integrals of algebraic and transcendental functions of one variable. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to derivative-related problems with and without technology.

Objectives:
At the end of the course the student teachers will be able to
- Apply the definition of limit to evaluate limits by multiple methods and use it to derive the definition and rules for differentiation and integration.
- Select and apply appropriate models and differentiation techniques to solve problems
- Apply the definition of indefinite integral to solve basic differential equations.
- Apply the definition of definite integral to evaluate basic integrals.
- Use the fundamental theorem of calculus to evaluate integrals involving algebraic and transcendental functions.

CONTENT OUTLINE

Differential Calculus:

Integral Calculus:

Modes of Transaction:

Practicum: Task and Assignment
Two questions from each unit

Modes of Assessment:
Written test and Task and assignment

Reference books:
2. T.K.Manickavachagom Pillai, Calculus Volume II (July 1992 Edition) Chapter I (Sections 8 to 14) and Chapter II.
CORE 3 VECTOR ANALYSIS AND GEOMETRY – I

Essence of the Course:
This course provides to study about Analytic geometry in space; partial differentiation and application; vectors in space; double and triple integrals and integral vector calculus. This course includes the study of multivariable calculus; including partial derivatives, multiple integrals, and their applications; parametric curves and surfaces in 3-space; solid analytic geometry; and the calculus of vector-valued functions, including line integrals and flux integrals. In an increasingly complex world, mathematical thinking, understanding, and skill are more important than ever. Vector Calculus will provide the students with the necessary tools to understand and formulate advanced mathematical concepts and an awareness of their relationship to complex problems. Students wishing to major in the sciences, engineering, or medicine are required to have a working knowledge of the calculus and its applications.

Objectives:
At the end of the course the students will be able to
1. Solve three dimensional geometry problems involving points, lines, planes, vectors, vector projections, and distances
2. Sketch, differentiate, and integrate vector-valued functions to find velocities, accelerations, tangents, and normal.

Content Outline:
UNIT I

UNIT II
Gradient, divergence and curl.

UNIT III

Mode of transaction of the course:
Lecture method, Problem Solving method, Seminar, Project work.

Practicum activities: Task and Assignment
Two questions from each unit.

Mode of Assessment:
Written test and assignment and Project work

References:
2. Shyam Series Speigel.
3. Vector Analysis Malini.
CORE 4 (SUPPORTIVE 1) PHYSICS-I

UNIT-I:
Moment of inertia - radius of gyration - parallel and perpendicular axis theorem - calculation of moment of inertia of (a) ring (b) disc (c) hollow and solid spheres - angular momentum and torque and relation between them.
Simple harmonic motion, equation of SHM; Composition of two SHM at right angles, Lissajous figures.

UNIT-II:
Young's modulus — bulk modulus — rigidity modulus and Poisson’s ratio — derivation of the expression for bending moment of a beam in terms of it curvature of neutral axis - determination of Young's modulus of a rectangular bar — non-uniform bending — pin and microscope method - with theory (mathematical derivation) - expression for couple per unit twist - determination of rigidity modulus - torsion pendulum.

UNIT-III:
Surface tension and surface energy - interfacial surface tension - experimental determination of surface tension by drop weight method - variation of surface tension with temperature — Jaeger’s method - streamline and turbulent motion - equation of continuity.

UNIT - IV:
Newton’s law of cooling - determination of specific heat of liquid - Barton’s cooling correction in calorimetric experiments - specific heat capacity of gases - ratio of specific heat capacities —determination of the ratio of specific heats of gases - Clement and Desormes method.
Coefficient of thermal conductivity of a bad conductor - Lee’s disc method - determination of thermal conductivity by Forbe's method.
Black body radiation - Stefan’s law - determination of Stefan’s constant — second law of thermodynamics - Carnot cycle - indicator diagram - derivation of efficiency - Kelvin temperature scale.

UNIT - V:
Interference — method of producing coherent sources - Fresnel’s biprism — Newton’s rings through transmission and reflection - Interferometers - Michelson’s Interferometer - wavelength determination - Jamin’s refractometer.
Diffraction - Fresnel’s diffraction - Fraunhofer diffraction - half-period zones - rectilinear propagation of light - diffraction at a straight edge.
Polarization - optical activity - specific rotatory power -Polarimeter - Lawrence half shade - determination of specific rotatory power - double refraction - optic axis.

TEXT BOOKS:
1. Dr.Sabesan and others, A Textbook of Allied Physics Vol-I and Vol-H
2. Ponnusamy and others, Ancillary Physics.

REFERENCE BOOKS
Physics Practical - I

[Choose any 7 experiments from the list given below for semester I]

1. Young’s modulus - Non-Uniform bending - Pin & Microscope
2. Rigidity modulus - Torsional oscillations without masses.
3. Comparison of coefficient of viscosity.
4. Surface tension of a liquid and interfacial surface tension by drop weight method.
5. Spectrometer - Refractive index of a liquid - Hollow prism.
7. Spectrometer - Grating - wavelength determination by minimum deviation method.
9. Thermal conductivity of a bad conductor - Lee’s disc method
11. Melde’s apparatus - Determination of frequency.
12. Meter Bridge - Temperature coefficient of the material of a coil of wire
13. Potentiometer - calibration of low range voltmeter (0 - 1.5 V).
14. Potentiometer - calibration of ammeter (0-1.5 amps).
15. Figure of merit of a periodic moving coil galvanometer.
16. Field along the axis of the circular coil carrying current - Determination of BH.
17. Newton’s law of cooling and specific heat determination
18. Frequency measurement by forming Lissajous figures
20. Transistor characteristics - CE mode - only transfer characteristics.

TEXT BOOKS:
1. Ouseph and V. Srinivasan, Practical Physics- Part-I & II.

REFERENCE BOOKS
1. Mathchan, Lazarus and others - Practical Physics.
Course – 7: ADVANCED - ENVIRONMENTAL EDUCATION

Theory

Credit 4

Essence of the course:

This course enables the teachers to develop knowledge about the environment and make them to understand and cope with nature which very essential for human beings. Keep in this in mind, it helps the student teacher to use the various resources for sustainability. It also intends them to develop interest towards the ecosystem and conservation of biodiversity. It would help them to find the solution for reducing various kinds of pollution and make them to involve towards environment and various issues.

OBJECTIVES:

At the end of the course, the student teacher will be able to

- know about the environment
- understand the surrounding
- know about biotic interaction
- develop concern towards protecting the various resources
- plan and organise in ecological activities
- sensitize the cause and effects of various pollution
- develops positive attitudes to minimize solid wastes
- practice environmental friendly life style

Unit 1: Renewable and non-renewable resources

The multidisciplinary nature of environmental studies – Definition, Scope and Importance – Need for public awareness.

Renewable and non-renewable resources:

- Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.
- Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam-benefits and problems.
- Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
- Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticides problems, water logging, salinity, case studies.
- Energy resources: Growing energy needs, renewable and non-renewable energy resources, use of alternate energy sources, case studies.
- Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

- Role of an individual in conservation of natural resources.
- Equitable use of resources for sustainable life styles.

Unit 2: Ecosystems

Concept of an ecosystem – Structure and function of an ecosystem Producers, consumers and decomposers – Energy flow in the ecosystem – Ecological succession – Food chains, food webs and ecological pyramids – Introduction, types, characteristic features, structure and function of the following ecosystem:
a. Forest ecosystem  
b. Grassland ecosystem  
c. Desert ecosystem  
d. Aquatic ecosystems (ponds, streams, lakes, rivers, ocean estuaries)

Unit 3: Biodiversity and its conservation

Introduction – Definition: genetic, species and ecosystem diversities – Biogeographical classification of India  
Value of biodiversity: Conceptive use, productive use, social, ethical, aesthetic and option values –  
Biodiversity at global, national and local levels – India as a mega-diversity nation – Hot-spots of biodiversity  
Threats to biodiversity: habited loss, poaching of wild life, man wildlife conflicts – Endangered and  
edemic species of India – Conservation of biodiversity: in-situ and ex-situ conservation of biodiversity.

Unit 4: Environmental pollution

Environmental pollution – Definition – Causes, effects and control measures of:  

a. Air pollution  
b. Water pollution  
c. Soil pollution  
d. Marine pollution  
e. Noise pollution  
f. Thermal pollution  
g. Nuclear pollution

Solid waste management: Causes, effects and control measures of urban and industrial wastes – Role of an  
individual in prevention of pollution – Pollution case studies – disaster management: floods, earthquake,  
cyclone and land slides.

Unit 5: Social issues and the Environment

Social issues and the Environment: From unsustainable to sustainable development urban problems and  
related to energy – water conservation, rain water harvesting, watershed management – Resettlement and  
rehabilitation of people; its problems and concerns. Case studies – Environmental ethics: Issues and possible  
solutions Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.  
Case studies.

Wasteland reclamation – Consumerism and waste products – Environmental protection Act – Air (Prevention  
and Control of Pollution) Act – water (Prevention and control of pollution) act – wildlife protection Act –  
Forest Conservation Act – Issues involved in enforcement of environmental legislation – Public awareness

Human Population and the environment: population growth, variation among nations – population explosion –  
AIDS – Women and child Welfare – Role of Information Technology in Environment and Human Health –  
Case Studies.

Practicum: Task and Assignment

1. Visit to a local area to document environment assets – river/ forest/ grassland /hill/ mountain  
2. Visit to a local polluted site – Urban/ Rural/ Industrial/ Agricultural- analyze and report  
3. Study of simple ecosystems – pond, river, hill slopes, etc.  
4. Preparation of a scrap book based on environmental issues from collection of articles and daily  
newspaper.  
5. Prepare a list of Eco friendly, bio-degradable products and write its advantages.  
6. Write a report on depletion of ozone layer, Acid rain, and acts related to conservation of environment.
7. Write a report on environmental issues and role of any agencies in protecting that issues.
8. Arrange a programme for environmental awareness and write a reflective report.

Mode of Assessment
Written test, Task and Assignment

References:

Web resources:
1. www.ehow.com/list_6506519_list-environmental-protocols.html
2. www.unpeace.org/international-environmental-law.html
5. www.controllingpollution.com/need-for-environmental-education/
6. www.nrdc.org/globalwarming/
7. www.worldviewofglobalwarming.org/
Course – 8: EDN II (EPC) - YOGA, HEALTH AND PHYSICAL EDUCATION - I

Practicum

Credits 2

Essence of the course:
Sound Body with a sound mind has always been the concern of India. With the changing conditions there are many a health hazards. All of us need to learn how to observe sound health. This course offers the opportunity to learn the yoga and produce the health. It also deals with good food habit, nutrition, physical exercise and sports

Objectives:

At the end of the course, the student teacher will be able to
• acquire the knowledge of Yoga, exercise, health & fitness
• understand the nature and structure of human bodies, injuries during emergencies and to provide first aid.
• apply discipline, rules and regulations to organize sports and games in schools.
• develop skills in organizing the physical education, health and yoga programmes in schools.
• develop interest in yoga, physical and health education,
• develop positive attitude towards the participation in yoga and health activities.

CONTENT OUTLINE

Unit 1: Yoga and Health

Unit 2: Health education

Unit 3: First Aid- Principles and Uses
Unit 4: Food and safety

Unit 5: Physical exercise and sports
concept and objectives of physical education, physical fitness, strength, endurance and flexibility, its components, sports skills, indigenous and self-defense activities – games & sports – athletes – general physical fitness exercises -- games – (lead-up Games, relays and major games) rhythmic activity, gymnastics and their impact on health.

Mode of Transaction
Lecture, workshop, discussion, field visit, play ground work, demonstration, practice.

Practicum: Task and Assignment
1. Prepare month wise self-reports based on the development of your physical fitness = height, weight-Strength, speed, endurance, flexibility and body composition.(Walking, Running, Throwing and Jumping etc.)
2. Prepare a record for yoga learning and performing basic yogic activities along with your reflection and your yoga practice photographs.
3. Write a report based on visit and interview with the personals in yoga and health centres.
4. Prepare an album for yoga, health and physical education (minimum 10 pictures in each aspect).
5. Demonstration of Yogic exercises.
6. Make a portfolio of various Games for school children and their advantages.
7. Preparation of inventories on myths on exercises and different type of food
8. Make an inventory of energy rich food and nutritious food(locally available) indicating its health value
9. Make an inventory of artificial food and provide critical observations from health point of view
10. Prepare inventory of Medicinal plants and their medicinal values.
11. Select yoga practices for persons of average health for practical yoga sessions: Supine position, Prone position, Sitting position, Standing position, Kriyas, Mudras, Pranayamas

Mode of Assessment:
Yoga practice, filed visit report, written test and presentation

References:
3. Raja Yoga – Methods and practices – Dalmite
9. Physical Education Lessons: Dr. J. P. Thomas
18. www.FalunDafa.org
FIRST YEAR - SEMESTER II
Course - 9: FOUNDATION I-2
Course -9(i): FOUNDATION I- 2 - TAMIL

Theory Credits 4

(ஆறு வருடமான நிலைய வருடம்)

(ஆறு வருடமான நிலைய வருடம்)

9 வருடமான நிலைய வருடம்

Fondalerry University
Course - 9(ii):  FOUNDATION I- 2 - FRENCH

Theory Credits 4

Course - 9(iii):  FOUNDATION I- 2 - MALAYALAM

Theory Credits 4

Course - 9(iv):  FOUNDATION I- 2 - TELUGU

Theory Credits 4

Course - 9(v):  FOUNDATION I- 2 - HINDI

Theory Credits 4

Syllabus yet to be prepared for the Course -9(ii) to Course -9(v)
Course – 10: FOUNDATION II-2 - ENGLISH

Theory

Essence of the course:

This course adopts a Multi skill approach towards teaching English for under graduate students. Keeping in view the principles of Language Learning and Teaching, the course adopts an Interactive approach to teaching the language. It also aims to equip the learners with skills of self learning.

Objectives:

1. To develop the sub skill of reading namely the skill of prediction
2. To develop the skill of Silent reading
3. To use grammatical structures in speech and writing.
4. To develop creative writing.

CONTENT OUTLINE

Unit I

1. After twenty years-O.Henry
2. A ring to me is bondage-Mina Assadi
3. Direct and Indirect speech
4. Phrasal Verbs
5. Note Making

Unit II

1. A Girl-Jamaica Kincaid
2. The Cow of the Barricades-Raja Rao
3. Idioms and Phrases
4. Determiners

Unit III

1. The Beauty Industry- Aldous Huxley
2. Digging-Seamus Heaney
3. Letter writing [formal and Informal]
4. Onomatopoeic words

Unit IV

1. The Town by the Sea-Amitav Ghosh
2. A Different History-Sujata bhatt
3. Use of for, since and during
4. Subject-verb agreement
5. Collocations

Unit V
1. Engine Trouble-R.K. Narayanan
2. Is Love an Art? - Erich Fromm
3. Collective nouns
4. Clauses
5. Use of few, a few, little and a little

Mode of Transaction:
Lecture, Discussion, Pair and group work in the class.

Practicum: Task and Assignment:
1. Discuss the surprise elements in, “After twenty years”
2. Critically analyse women’s role in, “A ring to me is a bondage”
3. Comment on the role of Gowri in, The cow of the Barricades”
4. Express the views on beauty industry
5. Appreciate manual work in “Digging”
6. Collects evidence on Tsunami.

Mode of Assessment:
Written test, Task and Assignment

Reference
1. Impressions II. A Multiskill Course in English by GeethaRajeevan and G. Radhakrishna Pillai

2. Essential English Grammar – A self study reference and practice book for elementary students
   of English with Answers by Raymond Murphy second edition: Cambridge University press (unit 58-114)
SEMESTER-II

CORE 5 - ALGEBRA AND TRIGONOMETRY-II

Essence of the course:
This course aims to provide a first approach to the subject of Algebra and Trigonometry, which is one of the basic pillars of modern mathematics. The focus of the course will be the study of certain structures called groups, subgroups, homomorphism's, rings, and some related Trigonometry. Algebra gives to student a good mathematical maturity and enables to build mathematical thinking and skill.

Objectives: At the end of the course the student teachers will be able to
1. demonstrate factual knowledge including the mathematical notation and terminology used in this course.
2. read, interpret, and use the vocabulary, symbolism, and basic definitions used in abstract algebra, including binary operations, relations, groups, subgroups, homomorphisms, rings, and ideals.
3. describe the fundamental principles including the laws and theorems arising from the concepts covered in this course.
4. develop and apply the fundamental properties of abstract algebraic structures, their substructures, their quotient structure, and their mappings.
   • Students will also prove basic theorems such as Lagrange's theorem, Cayley's theorem, and the fundamental theorems for groups and rings.
   • apply course material along with techniques and procedures covered in this course to solve problems.
   • use the facts, formulas, and techniques learned in this course to prove theorems about the structure, size, and nature of groups, subgroups, quotient groups, rings, subrings, ideals, quotient rings, and the associated mappings.
   • solve problems about the size and composition of subgroups and quotient groups; the orders of elements; isomorphic groups and rings; and the composition of ideals.
   • develop specific skills, competencies and thought processes sufficient to support further study or work in this or related fields.
   • acquire a level of proficiency in the fundamental concepts and applications necessary for further study, including graduate work, in academic areas requiring algebra as a prerequisite, or for work in occupational fields requiring a background in abstract algebra or other highly abstract mathematics.

CONTENT OUT LINE

UNIT-I
Mappings, equivalence relations and partitions. Congruence modulo n.

UNIT-II

UNIT-III

UNIT-IV
Introduction to rings, subrings, integral domains and field. Characteristic of a ring.
UNIT-V


Mode of transaction of the course

Discussion, problem solving, activities, individual and group work, student questions, student participation, and lecture. Project work.

Practicum activities: Task and Assignment

Two questions from each unit.

TEXT BOOKS:

1. I.N.Herstein, Topics in Algebra. Wiley Eastern Ltd, New Delhi, 1975. (Chapters 1,2,3,1-3.3)

REFERENCE BOOKS:

2. Rajendra Kumar Sharma , A basic Course in Abstract Algebra , Pearson Education; First edition (2011)
CORE 6 - CALCULUS - II

ESSENCE OF THE COURSE:

This course provides ODEs that are linear differential equations have exact closed-form solutions that can be added and multiplied by coefficients. This course presents the method of solving ordinary differential Equations of First Order and Second Order by using different methods. It enables the students to learn the method of solving Differential Equations.

Various differentials, derivatives, and functions become related to each other via equations, and thus a differential equation is a result that describes dynamically changing phenomena, evolution, and variation. Often, quantities are defined as the rate of change of other quantities (for example, derivatives of displacement with respect to time), or gradients of quantities, which is how they enter differential equations.

OBJECTIVES
At the end of the course the student teachers will be able to

1. acquire the knowledge of ODE.
2. identify Different form of ODE.
3. understand different methods of finding solution of ODE.
4. expose different techniques of finding solution of differential equation.
5. apply appropriate method to find the solution of ODE
6. develop the skill of verifying ODE solution.
7. improve the skill of Problem solving in ODE.
8. gain logical skills in the formulation of differential equation.

CONTENT OUTLINE
Ordinary Differential Equations:

UNIT 1: Degree and order of a differential equation. Equations of first order and first degree. Equations in which the variables are separable. Homogeneous equations.

UNIT 2: Linear equations and equations reducible to the linear form. Exact differential equations. First order higher degree equations solvable for x, y, p. Clairaut's form and singular solutions.


UNIT 4: Linear differential equations of second order. Transformation of the equation by changing the dependent variable / the independent variable. Method of variation of parameters. Ordinary simultaneous differential equations.
MODE OF TRANSACTION OF COURSE:
Lecture Method, Problem Solving Method, Deduction and Induction Method

PRACTICUM ACTIVITIES: Task and Assignment
Two questions from each unit.

MODE OF ASSESSMENT
Written test, Task and Assignment

REFERENCE:
1. T.K. Manickavachagom Pillai, Calculus Volume II (July 1992 Edition), Chapters VIII, IX and X.
CORE 7 -VECTOR ANALYSIS AND GEOMETRY -II

Essence of the course:

This course is designed to follow Vector Analysis with Analytic Geometry of three dimensions. Topics include vectors in the plane and space, three dimensional surfaces, various coordinate systems, vector-valued functions, multiple integration, vector analysis, line integrals, surface integrals and applications.

Objectives: At the end of the course the student teachers will be able to

1. acquire the knowledge of concepts of the geometric properties surfaces, three-dimensional vectors, vector valued functions, planes, lines and the cylindrical and spherical coordinate systems, theorems of Green, Gauss Divergence and Stokes.
2. understand the concepts of the geometric properties surfaces, two- and three-dimensional vectors, vector valued functions, planes, lines and the cylindrical and spherical coordinate systems, theorems of Green, Gauss Divergence and Stokes
3. apply the three dimensions and vector analysis to applied problems.
4. apply concepts of multiple integrals to applied problems.
5. demonstrate the concepts of vector analysis to applied problems.

CONTENT OUTLINE

Unit -I
Vector Analysis:
Vector integration. Line integral, Surface integral, Volume integral
Theorems of Gauss, Green and Stokes (Statements only) and problems based on these.

Unit-II
Beta and Gamma functions.

Unit-III
Geometry: Plane-The straight line and the plane.

Unit IV
Sphere.

Unit-V
Cone. Cylinder.

Text books
3. T.K.Manickavachagom Pilli and T.Natarajan, Calculus volume -II. (Relvant portions)

Reference books:
CORE 8 (SUPPORTIVE 2) PHYSICS-II

UNIT-I:
Ultrasonics - magnetostriction - piezoelectric methods - properties of ultrasonic waves and applications.

UNIT-II:
Gauss’s law with proof - Electric intensity and potential due to a uniformly charged hollow conductor at a point outside, on the surface and inside a spherical conductor — capacity of a parallel plate condenser with and without a dielectric slab - capacity of a spherical conductor - Biot & Savart’s law — field along the axis of a circular coil carrying current - force on current carrying conductor placed in a magnetic field - theory of moving coil galvanometer.

UNIT - III:
Magnetic properties of materials- relation between- the three magnetic vectors - susceptibility and permeability - para, dia and ferro magnetism (qualitative ideas) - magnetic hysteresis - super conductivity - persistent current and Meissner Effect.

UNIT-IV:

Radioactive isotopes (production and uses) - particle accelerator - linear accelerator - particle detectors - Wilson cloud chamber - Scintillation counter - nuclear models - Liquid drop model -Fission and Fusion reaction - nuclear reactors.

UNIT-V:
Rectifiers & filters (qualitative ideas)- Transistor characteristics - transistor as a RC coupled amplifier -frequency response (without derivation) - bandwidth - basic principles of ar oscillator -Hartley oscillator - working (without derivation) - elementary ideas about modulation - elementary ideas about TV transmission and reception.

TEXT BOOKS:
1. Dr.Sabesan and others, A Textbook of Allied Physics - Vol-I and Vol-II.
2. Ponnusamy and others, Ancillary Physics.

REFERENCE BOOKS
Physics Practical -II

[Choose any 7 experiments from the list given below for semester II]
(The experiments chosen in in the first semester, should not be repeated)

1. Young’s modulus - Non-Uniform bending - Pin & Microscope
2. Ridity modulus - Torsional oscillations without masses.
3. Comparison of coefficient of viscosity.
4. Surface tension of a liquid and interfacial surface tension by drop weight method.
5. Spectrometer - Refractive index of a liquid - Hollow prism.
7. Spectrometer - Grating - wavelength determination by minimum deviation method.
9. Thermal conductivity of a bad conductor - Lee’s disc method
11. Melde’s apparatus - Determination of frequency.
12. Meter Bridge - Temperature coefficient of the material of a coil of wire
13. Potentiometer - calibration of low range voltmeter (0 - 1.5 V).
14. Potentiometer - calibration of ammeter (0-1.5 amps).
15. Figure of merit of a periodic moving coil galvanometer.
16. Field along the axis of the circular coil carrying current - Determination of BH.
17. Newton’s law of cooling and specific heat determination
18. Frequency measurement by forming Lissajous figures
20. Transistor characteristics - CE mode - only transfer characteristics.

TEXT BOOKS:
1. Ouseph and V.Srinivasan, Practical Physics- Part-I & II.

REFERENCE BOOKS
1. Mathchan, Lazarus and others - Practical Physics.
Course – 15: EDN I(C&PS) - LANGUAGE ACROSS THE CURRICULUM

Theory

Essence of the course:

This course is for the development of linguistic and communicative competencies of student teachers in a multicultural and multilingual environment. It is designed by keeping in mind that the language is an integral part of subject learning and competence which will have an impact on classroom interaction. It emphasizes on how language skills like listening, speaking, reading and writing play an important role in various subjects across the curriculum.

Objectives:

At the end of the course the student teachers will be able to

- acquire knowledge about language and literacy and principles of language teaching.
- understand the importance of language and literacy background of the learners with reference to spelling and vocabulary development
- apply the acquired knowledge in methods and approaches of teaching language.
- develop skills in reading and writing which pave the way to attain optimal learning of the subject areas.
- develop interest towards language learning from language diversity and multilingualism point of view.
- develop a positive attitude towards language to realise that learning and teaching cannot take place in a language free environment.

CONTENT OUTLINE

Unit 1: Nature and Functions of Language


Unit 2: Language Diversity in Classrooms

First Language and Second Language Acquisition – using of First and Second Language in the classroom – multilingualism in the class – meaning and concept- dialects – understanding language diversity of students – home language and school language

Unit 3: Methods of learning language in school subject areas

Methods: definition, types, traditional and modern methods – bilingual method – classroom discourse to oral language – questioning – methods for reading comprehension in specific subject areas – methods for writing in specific subject area – spelling methods, in learning to spell words correctly, philosophy of teaching of spelling, computer use and spelling vocabulary: definition, developing vocabularies, vocabulary acquisition and application.
Unit 4: Fluency in the Language

Communication - meaning and concept - process of communication - types of communication - nonverbal communication - functions and types.

Unit 5: Language assessment in school subjects

Assessment: definition, types, principles and classroom practice - tools: quizzes, projects, test - current reviews and practices - testing auditory comprehension - test the four skills - use of language lab and electronic devices for testing.

Mode of transaction:
Dialogue, seminars, discussions, group-work, language games, exercises and assignments

Practicum: Task and Assignment
1. Get a two-page writing from the school students in English and Mother tongue learning and analyse them from language point of view
2. Observe any five classes of subject teaching and analyse from the point of language teaching
3. Write a critical report on the opinion of subject teacher on the weightage for language aspects in valuation of subject test papers.
4. School visit to find out communication problem / Apprehension in students
5. Designing games and exercises for developing Listening, Speaking, Reading and Writing Skills
6. Assignments on Developing speaking skills - oral presentations, debate, elocution, discussion, brain-storming
7. Assignments on developing listening skills - listening to speech, directions

Mode of assessment: Written test and Task and assignment

References:
Course – 16: EDN II(EPC) - READING AND REFLECTING ON TEXTS

Theory

Credits 2

Essence of the course:

The course is designed to enhance the reading capacity of the student teachers. It will enable them to develop meta-cognitive awareness. The course offers opportunities to student teachers to read a variety of texts and respond to it creatively and critically.

Objectives:

At the end of the course, the student teacher will be able to

* Understand the meaning, process, importance and characteristics of reading.
* Understand and apply different levels, types, techniques and methods of reading.
* Acquaint with the skills of reading different types of texts.
* Develop different types of reading skills through various activities and met cognition
* Learn the skills of reading comprehension and to enhance vocabulary.
* Acquaint with the problems of reading across curriculum

CONTENT OUTLINE

Unit 1: Introduction to Reading

Reading – Meaning and Process – Importance of Reading across Curriculum – Characteristics of Reading.

Unit 2: Reading Skills

Levels of Reading: literal, interpretative, critical and creative – Types of Reading – intensive and extensive reading, Oral & Silent Reading – Reading Techniques – Skimming and Scanning. – Methodology of Reading

Unit 3: Reading the Text

Types of Texts – Narrative, expository, descriptive, suggestive, empirical, conceptual, ethnography, policy documents, field notes – Importance of Different Texts in Curriculum

Unit 4: Developing Reading Skills

Developing Critical Reading Skills – Developing Reflective Skills – Activities for Developing Reading Skills – Developing Metacognition for Reading

Unit 5: Reading Comprehension

Developing Reading Comprehension – Developing Vocabulary for Reading – Problems of Reading

Mode of Transaction

Lecture, Discussion, Exercises, Games

Practicum: task and assignment

1. Divide the class in small group and provide different kinds of texts and instruct them to read and reflect according to the nature of text
2. Divide the group and provide one text and suggest students to make different interpretations
3. Design vocabulary games to enhance your vocabulary
4. Read the text and provide a five words summary to each paragraph
5. Reading and comprehension exercises
6. Skim through the text and give a suitable title to the text
7. Complete given text in stipulated time and summarize it in 6/7 lines with a suitable title.
8. Individual reading and writing reflective report (5 books)
9. Presentation of reflective report for class review and modification of the report
10. Group reading and writing reflective group report (5 documents)
11. Constructive and creative presentation of ideas and pictures like poster on any one of the idea

Mode of Assessment:
Written test, Tasks and assignments

References:
14. Recognizing Different Types of Text
http://www.bbc.co.uk/skillswe/sheets/en03text-11-f-different-types-of-text
15. Models of Reading Process
http://people.ucalgary.ca/~mpelgar/models.html
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3001687/
http://www.tarleton.edu/Faculty/gentry/reading%20models.html
16. Reflective Skills
http://www.skillsyouneed.com/ips/reflecting.html
SECOND YEAR - SEMESTER III

Course – 17: FOUNDATION I - 3

Course -17(i): FOUNDATION I-3 - TAMIL

Theory Credits 4

அனுமானம் அளவு - புராணம் பலன்
பாதி துணைத்திருக்கும் விளக்கங்களைப் பார்க்கும்

அங்கத்தில்

1. இசைத்தியங்கல் - இசைத்தியங்கல் பாடல்கள் (பகுதி 10 முன்னேக்கி)
2. காலக்கற்காலப் பாடல் - காலக்கற்கால பாடல்கள் (பகுதி 10 முன்னேக்கி)
3. பாரம்பரிய விளக்கம் - வரலாற்று விளக்கம் (பகுதி 10 முன்னேக்கி)
4. அதமரம் - அதாப்பாடல் (பகுதி 10 முன்னேக்கி)
5. குறுக்கு பாடல் (பகுதி 10 முன்னேக்கி)
6. சுவாசக்கற்காலம் - அந்தியுரை (10 முன்னேக்கி)
7. பாரம்பரிய பாறைத்தியங்கல் - பாறைத்தியங்கல் விளக்கம் (பகுதி 12 முன்னேக்கி)
8. பாகமடையும் பாலங்காலா தந்தி - பாகமடையும் விளக்கம் (10 முன்னேக்கி)
9. புத்தகங்கள் விளக்க (பகுதி 10 முன்னேக்கி)
10. குர்யூ தியானா - 71 புகழ் 90 வார்கள் (20 முன்னேக்கி)

இந்தியம் பார்க்கும்

பாதி துணைத்திருக்கும்

சிறுபாடக பார்க்கும்
Course -17(ii):  FOUNDATION I-3 - FRENCH
Theory  
Credits 4

Course -17(iii):  FOUNDATION I-3 - MALAYALAM
Theory  
Credits 4

Course -17(iv):  FOUNDATION I-3 - TELUGU
Theory  
Credits 4

Course -17(v):  FOUNDATION I-3 - HINDI
Theory  
Credits 4

Syllabus yet to be prepared for the Course -17(ii) to Course -17(v)
Course – 18: FOUNDATION II-3  ENGLISH

Theory

Credits 4

Essence of the course:
This course adopts a Multi skill approach towards teaching English for under graduate students. Keeping in view the principles of Language Learning and Teaching, the course adopts an Interactive approach to teaching the language. It also aims to equip the learners with skills of self learning.

Objectives:
1. To develop fluency in conversation and efficiency in interactional skills.
2. To enhance language in use.
3. To enable the learners to use English in real-life situations.
4. To develop creative writing and speaking.

CONTENT OUTLINE

Unit I
1. A Day’s Wait- Ernest Hemingway
2. Dress in communication-C.L.N.Prakash
3 Simple Past, Present perfect
4. Discourse markers

Unit II
1. Rethinking your Thinking- C.L.N.Prakash
2. The Justice of Peace- Hilaire Belloc
3. Phrases
4. Will/be going to

Unit III
1. Fusion Music-Pt. Ravi Shankar
2. The Happy Prince- Oscar Wilde
3. Letter Writing (Business letter)
4. Adverbs
5. Adjectives and nouns

Unit IV
1. A speech by N.R. Narayana Murthy
2. The Cockroach- Kevin Halligen
3. Sentence form and sentence function
4. Personal letter

Unit V
1. Graphic Novels- C.L.N.Prakash
2. The Boy Comes Home-A. A. Milne
3. Phrasal verbs
4. Passive voice
5. Essay writing
Mode of Transaction:
Lecture, Discussion, Learner centered and interactive method

Practicum: Task and Assignment
1. Discuss the importance of Dress in Communication
2. Critically analyse the different ways of thinking according to C.L.N.Prakash
3. Comment on the three facets of George's personality
4. Why did Kevin Halligen compare himself with the cockroach
5. How are Graphic Novels different from Conventional Comic books?

Mode of Assessment:
Written test, Task and Assignment

Reference:
1. Impressions III : A Multiskill Course in English by GeethaRajeevan and G. Radhakrishna Pillai
2. Intermediate English grammar -Reference and practice book for south Asian students with
   Answers by Raymond Murphy second edition: Cambridge University press 1997 (unit 1 -67)
ESSENCE OF THE COURSE:
This Course provide to formulate problems involving functions of several variables, and are either solved by hand, or used to create a relevant computer model. This Course describes a wide variety of phenomena such as sound, heat, electrostatics, electrodynamics, fluid flow, elasticity, or quantum mechanics. These seemingly distinct physical phenomena can be formalised similarly in terms of PDEs. It enables the students to learn the method of solving Differential Equations. This course presents the method of solving Partial Differential equations. Also it deals with Laplace Transforms, its inverse and Application of Laplace Transform in solving First and Second Order Differential Equations with constant coefficients.

OBJECTIVES
At the end of the course the student teachers will be able to
1. acquire the knowledge of PDE
2. learn different methods in PDE
3. know the concept of Laplace transforms and its inverse with applications
4. expose different techniques of finding solution of partial differential equation.
5. enable the application of Laplace in Differential Equations.
6. identify some specific methods and solve PDE
7. make difference between ODE and PDE
8. use the techniques of finding Laplace transforms and inverse Laplace transforms of real functions and their application in solving ordinary differential equations
9. develop the skill of solving PDE.
10. gain logical skills in the solution of differential equation by using Laplace Transform.

CONTENT OUTLINE

1. Partial Differential Equations:
1.1. Formation of equations by elimination of constants and arbitrary functions.
1.2. Definitions of general, particular and complete solutions. Singular integral (Geometrical meanings not expected).
1.3. Lagrange's method of solving the linear equation $P p + Q q = R$. (Geometrical interpretations not expected). Charpit's method.

2. Laplace Transforms:
2.1. Definitions. Transform of 1, transform of the functions $e^{-at}$, $cos at$, $sin at$ and $t^n$, where $n$ is a positive integer, $sinh at$, $cosh at$.
2.2. First shifting theorem: If the Laplace transform of a function $f(t)$ is $\mathcal{L}(s)$, then the Laplace transform of $e^{-at}f(t)$ is $\mathcal{L}(s+a)$, Laplace transforms of $e^{-at}cos bt$, $e^{-at}sin bt$, $e^{-at}t^n$.
2.3. Second shifting theorem.
2.4. Transforms of $f(t)$ and $f(t)$. 
2.5. Inverse transforms relating to the above standard forms.
2.6. Application to solution of ordinary differential equations with constant coefficients, involving the above transforms.


3. Fourier Series:
3.1. Definition Finding Fourier coefficients for a given periodic function with period 2.
Odd and even functions. Half range series.
Note: TEN questions are to be set and Three Fifths of the paper carries full marks.

REFERENCE:
1. M.D. Raisinghania, Ordinary and Partial Differential Equations, S. Chand & Co
3. Dr. J. K. Goyal and K.P. Gupta, Laplace and Fourier Transforms, Pragali Prakashan
Publishers, Meerut, 2000
4. P.R. Vittal, Differential Equations and Laplace transformation
5. Singaravelu, Differential Equations, Fourier series and Laplace transformation.
CORE 10 - ABSTRACT ALGEBRA

Essence of the course:
This course aims to provide a first approach to the subject Abstract Algebra, which is one of the basic pillars of modern mathematics. The focus of the course will be the study of certain structures called Ring homomorphism - Ideals and quotient rings - More ideals and quotient rings homomorphism’s rings, Basic concepts of vector spaces - Linear independence and bases - Dual spaces. Orthogonal vectors - Orthogonal complements - Ortho normal sets and bases -
Gram Schmidt orthogonalization process. Abstract Algebra gives to student a good mathematical maturity and enables to build mathematical thinking and skill. Many difficult science problems can be handled using the powerful yet easy to use mathematics of Abstract algebra.

Objectives: At the end of the course the student teachers will be able to

- Describe and generate rings, and fields.
- Relate abstract algebraic constructs to more familiar number sets and operations and see from where the constructs derive.
- Identify examples of specific constructs.
- Identify and differentiate between different structures and understand how changing properties give rise to new structures.
- Explain the theory behind relations and functions and identify domains and images of functions, based on the structures given.
- Explain how functions may relate seemingly dissimilar structures to each other and how knowing properties of one structure allows us to know the same properties in the related structure, if certain functions exist between them.

CONTENT OUTLINE
UNIT-I
Ring theory:
Ring homomorphism - Ideals and quotient rings - More ideals and quotient rings.
UNIT-II
Ring Theory continued:
The field of quotients of an integral domain - Euclidean rings - A particular Euclidean ring - The domain of Gaussian integers.
UNIT-III
Vector spaces:
Basic concepts of vector spaces - Linear independence and bases - Dual spaces.
UNIT-IV
Inner product spaces:
Definition of inner product - Inner product spaces - Cauchy Schwartz inequality - Orthogonal vectors - Orthogonal complements - Ortho normal sets and bases - Gram Schmidt orthogonalization process.
UNIT-V
Linear Transformations:
Definition of a linear transformation - The algebra of linear transformations - Characteristic roots and characteristic vectors.

Text book:
Unit 1: Chapter 3: Sections 3.3 to 3.5
Unit 2: Chapter 3: Sections 3.6 to 3.8
Unit 3: Chapter 4: Sections 4.1 to 4.3
Unit 4: Chapter 4: Section 4.4
Unit 5: Chapter 6: Sections 6.1 to 6.2

Mode of transaction of the course

Discussion, problem solving, activities, individual and group work, student questions, student participation, and lecture. Project work.

Practicum activities: Task and Assignment

Two questions from each unit

REFERENCE BOOKS
CORE 11 - STATISTICS

Essence of the course

This course provides an introduction to Random variables moments, Moment generating functions, uniform, normal, Poisson process; Correlation and regression analysis Tests of significance and Analysis of variance

Objectives

Students who successfully complete this course should be able to demonstrate understanding of:

- acquire the basic knowledge of probability axioms and rules and the moments of discrete and continuous random variables as well as be familiar with common named discrete and continuous random variables.
- how to derive the probability density function of transformations of random variables and use these techniques to generate data from various distributions.
- how to calculate probabilities, and derive the marginal and conditional distributions
- how to derive the probability density function of transformations of random variables and use these techniques to generate data from various distributions
- how to translate real-world problems into probability models.

CONTENT OUTLINE

UNIT: 1. Random variables Discrete and continuous
Distribution function Expected value and moments, Moment generating functions and characteristic functions Tchebechev's inequality.

UNIT: 2. Binomial, Poisson, normal and uniform distribution.

UNIT: 3. Correlation and regression analysis.

UNIT:4. Tests of significance - Standard error - Large sample tests - Exact test basedon t, chi-square and F-distributions with regard to mean, variance and correlation coefficient - Test f independence in congruency tables - Tests of goodness of fit - Test of hypothesis - Neymann Pearson theory

UNIT:5. Analysis of variance:
One-way classification - Two-way classification.

Text book:
(Relevent portions)

Reference books:
2. R.S.N.Pillai and V.Bagavathi, Statistics
CORE 12 (SUPPORTIVE 3) CHEMISTRY - I

Objectives:
To get a good exposure to the basic concepts of chemistry to enable them to pursue careers related to chemistry.

UNIT 1: INORGANIC CHEMISTRY
1.1 Transition elements
   a) Transition Elements: Electronic structure and position in the periodic table.
   b) General properties: variable valency, colour, magnetic properties and catalytic role
1.2 Coordination compounds
   a) IUPAC Nomenclature of mononuclear complexes, Types of ligands including EDTA.
   b) Theories: Werner’s theory based on conductivity, Precipitation and isomerism (geometrical and optical) in square planar and octahedral complexes. Sidgwick’s theory and EAN Principle, Pauling’s Theory, explanation of shapes and magnetic nature.
   c) Use of coordination compounds in qualitative analysis (Cu²⁺/NH₃) and quantitative analysis (Ni²⁺/DMG), Hardness of water using EDTA.
   d) Mention of biologically active compounds: Haemoglobin, Chlorophyll.

UNIT 2: ORGANIC CHEMISTRY
2.1 Electronic displacement effects:
   a) Inductive, resonance and steric effects.
   b) Their effect on $K_a$ and $K_b$ on organic acids and bases.
2.2 Organic reaction mechanisms:
   a) $S_{N1}$ bd $S_{N2}$ reaction of alkyl halides: mechanism only
   b) Aromatic electrophilic substitution; nitration, halogenation, Friedel-Craft’s alkylation and acylation.
2.3 Isomerisms:
   a) Geometrical isomerism: molecules of alkene of structure R-CH=CH-R
   b) Optical isomerism: compounds with one and two adjacent chiral carbons
   c) Conformational isomerisms of ethane, n-butane and cyclohexane.

UNIT 3: PHYSICAL CHEMISTRY
3.1 Solutions:
   a) Types and examples of solutions: gas in liquid and liquid in liquid (totally miscible, partially miscible and immiscible liquid pairs)
   b) Henry’s and Raoult’s laws, ideal and real solutions, deviation from ideal behaviour. Vapour-Pressure composition diagram for a totally miscible binary liquid system obeying Raoult’s laws.
   c) Partially miscible liquid system (Phenol-water)
3.2 Phase Rule:
   a) Definition of phase, component and degree of freedom, Phase rule (statement only).
   b) Application of phase rule to a one-component system (water) and simple eutectic system (Pb-Ag)
c) Determination of pH (glass electrode)

3.3 Kinetics and catalysis:
   a) Rate expression for I and II order, methods of determining order of a reaction, order
      and molecularity.
   b) Catalysis: homogeneous and heterogeneous, catalyst used in Contact and Haber’s
      processes.
   c) Concept of energy of activation and Arrhenius equation.

3.4 Photochemistry:
   a) Comparison between thermal and photochemical reactions
   b) Grothus-Draper’s law, Einstein’s law, quantum yield, photosensitisation
   c) Beer-Lambert’s law. Estimation of copper and nickel by spectrophotocalorimetry.

UNIT 4: BIO-ORGANIC CHEMISTRY

4.1 Nucleic acids:
   a) Structure of DNA and RNA, Hydrogen bonding.
   b) Replication of DNA. Types of RNA
   c) Genetic Engineering: Mention of applications and possible risks.

4.2 Hormones:
   a) Thyroxine, adrenaline and sex hormones (structure and functions only)
   b) Mention of ACTH, cortisone, prostaglandins, and oxytocin.

UNIT 5: INDUSTRIAL CHEMISTRY

5.1 High Polymers:
   a) Classification: Natural and synthetic, step growth and chain growth polymers.
   b) Natural rubber: Composition, cis-structure, elasticity, manufacture and uses of
      synthetic rubber (neoprene, Buna-S), Vulcanization of rubber.
   c) Plastic: Manufacture and uses of PVC, Bakelite, acrylates, PET, PUF, and
      Polystyrene.

5.2 Corrosion:
   a) Causes of corrosion of metals, Electrochemical mechanism.
   b) Prevention: Galvanization, electroplating and cathodic protection.

TEXT BOOKS:
2. M.J. Sienko and R.A. Plane, Chemistry – Principles and properties, National

REFERENCE BOOKS:
2. W.R. Kene, M.J.W. Rogers, P. Simpson, Chemistry – Facts, patterns and principles,
   ELBS., 1999.
Objectives:
To enable the students to understand better the concepts of organic analysis and appreciate better the applications of organic chemistry towards biological systems.

Organic Analysis:
a) Identification of acidic, basic, phenolic and neutral organic substances
b) Detection of N, S and halogens
c) Test for aliphatic and aromatic nature of substances.
d) Test for saturation and unsaturation.
e) Identification of functional groups
   i) Carboxylic acid
   ii) Phenols
   iii) Aldehydes
   iv) Ketones
   v) Esters
   vi) Carbohydrates
   vii) Primary amines
   viii) Amides

Text Books:
Course – 23: EDN I(PE) CHILDHOOD AND GROWING UP – I

Theory

Credits 4

Essence of the course:
This course makes student-teacher to understand the systematic study of childhood, adolescence and their development, make them to learn children at different ages through theoretical and interaction with learners in school. The main focus of this course is to prepare student-teachers to accept different constructivist nature of different children which is influenced by their family, school, neighbourhood and community background in particular and political, social, and cultural dimension in general. It gives them knowledge about various theories of child development.

Objectives:
At the end of the course the student teachers will be able to
• acquire the knowledge of Childhood, Adolescence and their development
• to understand the Multiple childhood and developmental feature of childhood and adolescence under different socio-economic and cultural factors
• apply the theory of development to understand learners
• develop skill in measuring behaviour of childhood and adolescence
• understand about the various socio-cultural impact on learners

CONTENT OUTLINE

Unit 1: Childhood, Adolescence and their development
Meaning of Childhood, Adolescence and Their Development – distinguish between growth and development - characteristics of growth and development – principles of development – developmental feature (physical, mental, emotional, social, and moral)

Unit 2: Psycho-Social Perspective of Childhood & Adolescence
Childhood in different stages (Multiple Childhood) – Mental health of childhood & adolescence - period of high protection & struggle of childhood and adolescence (social, cultural and economic background) – present scenario of childhood and adolescence in India.

Unit 3: Status of Childhood & Adolescence
Nature of childhood and adolescence in different cultures – peak in development (Motor, Speech, Play, Creativity, Interest, Leadership, Group Behavior) – gender bias – sex role stereotypes, status of girl child (especially in under privilege) – exploitation of child in urban slum.

Unit 4: Theories of development
Social developmental – Uric Bronfenbrenner’s Ecological system theory, Vygotsky’s Social Development and Erikson Psycho social development theories – Mental development- Piaget’s cognitive development, Bruner’s concept formation, Gardner’s multiple intelligence theory - Emotional development - John Bowlby’s attachment theory

Unit 5: Heterogeneous nature of adolescence
Transitional stage – critical age – characters of adolescence – dissimilarity of adolescence – population levels, group levels, cultural difference, and individual difference – developmental task is determinants of socio-economic & cultural factors.
Modes of Transaction:
- Lecture, Assignment, Seminar, Group discussion, Workshop, Film Show, Audio – Video

Practicum: Task and Assignment
1. To prepare study report on the development of (Physical, Social, Emotional, Mental) of urban and rural adolescence in a specific standard (from VIII to XII)
2. Give your view about the present scenario of childhood and Adolescence
3. Prepare an interview schedule based on the Social development indicators of adolescence and study the social development of the class students
4. Write auto-biography about once your childhood and adolescence period discuss with his/her peer.

Modes of Assessment:
- Written test, seminar, presentation, Field Visit

References:
Course – 24: EDN I(C&PS) KNOWLEDGE AND CURRICULUM

Theory Credits 2

Essence of the course:
In the 21st century knowledge society, knowledge explosion is compelling the educational administrators to enrich the curriculum to develop the human resources according to the requirements of the world community. Therefore, this course is focusing on the knowledge and curriculum aspects. The purpose of knowledge and curriculum is to be understood from the epistemological and sociological perspectives of education. The course can enable the student teachers to gain confidence in curriculum design and evaluation by focusing the future directions.

Objectives:
At the end of the course the student teachers will be able to
- acquire knowledge of terms and concepts of curriculum and epistemology used in the field of education.
- understand the types and process of curriculum, importance of social and epistemological basis of education
- apply the appropriate strategies for curriculum transaction and curriculum development
- develop the skills to use the concepts, practices and roles play in curriculum evaluation with the aims of education
- develop the skills on critically analysis of various samples of textbooks, children’s literature, and teachers’ handbooks
- develop interest on go through discovery of various philosophers
- develop the attitude towards concepts of nationalism, universalism and secularism and their interrelationship with education

CONTENT OUTLINE

Unit 1: Knowledge and Curriculum

Unit 2: Principles of Curriculum
Aims, goals and objectives of curriculum –curriculum design and its components –curriculum development: technical-scientific approach and Nontechnical- Nonscientific approach – curriculum implementation and its models - Differentiating curriculum framework, curriculum and syllabus; their significance in school education

Unit 3: Curriculum Transaction
Strategies for curriculum transaction –Selection and organisation of learning situations – models of teaching: individual and team teaching, distance learning modes –Activity Based
Learning (ABL)- Activity Learning Methodology (ALM)- resources for curriculum transaction – computer and internet – role and importance.

Unit 4: Curriculum evaluation

Stages of programme evaluation - The curriculum cycle - nature and purpose of evaluation – approaches of evaluation –validity and significance of course content- evaluation models Taylor’s, Stave’s and CIPP model - practices and roles play in evaluation –peer evaluation - goal free evaluation –critical analysis of textbooks, children’s literature and teachers’ handbooks

Unit 5: Issues in Curriculum Development

Critical issues: teacher centred to learner centred, subject centred to practical knowledge – Environmental concerns, gender differences, inclusiveness, value concerns and issues, social sensitivity- centralized Vs decentralized curriculum –diversity among teachers in their competence-problem of curriculum load as many concerns are to be included in curriculum – participants in curriculum Development – role of state in the curriculum development – makers of curriculum –role of curriculum in national development.— Curriculum makes an intellectual society – curriculum for 21st century – UNESCO’s concept of four pillars of education

Mode of transaction:

Group discussion, lecture, discussion, symposium, Peer group, Debates, Workshop, Seminar, Project work

Practicum: Task and Assignment

1. Select a primary school, observe and report about the implementation of ABL method.
2. Search in the internet about ALM method, and prepare an interview tool and interview 10 teachers who are using ALM method.
3. Write a comparative report based on the curriculum development in India and any other countries by referring internet.
4. Design a syllabi for a course at B.Ed., level /school level.
5. Write a report based on the curriculum of CBSE and Samacheer.

Mode of assessment:

Written test, Task and assignment

References:

Course – 25: EDN II(EPC) DRAMA AND ART IN EDUCATION

Practicum Credits 2

Essence of the course:
This course is designed to enhance the creativity of student teachers and sharpen their aesthetic sensibilities. It aims to make student teacher aware of the role of art, music and drama in education. It will enable the student teacher to use the various forms of drama, art and music in the teaching learning to improve learning.

Objectives:
At the end of the course, the student teacher will be able to
- Understand the use of ‘Drama’ as a Pedagogy.
- Use ‘Role play’ technique in the teaching learning process.
- Understand the importance of dramatic way of presentation.
- Integrate singing method in teaching learning process.
- Understand various ‘Dance forms’ and their integration in educational practices.
- Use art of drawing and painting in teaching learning process.
- Develop creativity through different creative art forms.
- Understand the efficacy of different art forms in education.

CONTENT OUTLINE

Unit 1: Drama and its Fundamentals
Drama as a tool of learning – Different Forms of Drama – Role play and Simulation – Use of Drama for Educational and social change (Street play, Dramatization of a lesson) – Use of Drama Techniques in the Classroom: voice and speech, mime and movements, improvisation, skills of observation, imitation and presentation

Unit 2: Music (Gayan and Vadan)

Unit 3: The Art of Dance
Various Dance Forms - Bharat Natyam, Kathakali, Folk dance: Garba, Bhavai, Bhangada, Bihu and various other dances – Integration of Dance in educational practices (Action songs, Nritya Natika)

Unit 4: Drawing and Painting
Unit 5: Creative Art
Creative writing - Story writing, Poetry writing - Model making - Clay modeling, Origami, Puppet making - Decorative Art - Rangoli, Ekebana, Wall painting (Mural) - Designing - Computer graphics, CD Cover, Book cover, Collage work - The use of different art forms in Education

Mode of Transaction:
Lecture, lecture cum Discussion, Workshop schedule, Slide / Film show, Project work, Demonstration, Visit, Group work and its Presentation

Practicum: Task and Assignment
1. Develop a script of any lesson in any subject of your choice to perform a Play / Drama.
2. Develop a script for the street play focusing on “Girl’s education and Women empowerment”.
3. Prepare a script of Bhava based on some Socio-political issues.
4. Prepare a pictorial monograph on “Various folk dance of Gujarat”.
5. Prepare a pictorial monograph on “Various Dance forms in India”.
6. Prepare a calendar chart on “Various Musical Instruments in India”.
7. Develop an Audio CD based on newly composed Poems of Gujarati / Hindi language.
8. Prepare some useful, productive and decorative models out of the west materials.
9. Visit the Faculty of Performing Arts in your city and prepare a detailed report on its multifarious functioning.
10. Organize a competition on some Decorative / Performing Art forms in the school during your School Internship programme and prepare a report on it.
11. Organize a workshop on some selected Creative Art forms in the school during your School Internship programme and prepare a report on it.
12. Develop a creative design based on your choice for CD Cover or Book cover.
13. Develop a design or a picture based on collage work.
14. The work based on visits to places of art, exhibitions and cultural festivals and Perception, reflection, and dramatic/artistic expression (presentation) of any five art, drama and music items relating to any five areas included in the EPC 2 course content
15. Individual visits and writing perception and reflective report (2 items)
16. Group visits (two) and writing perception and reflective report based on class review
17. Individual Expression (presentation) of any two art, drama and music items
18. Group expression (presentation) of any two items

Mode of Assessment
Written test and Tasks and assignments

References:
1. Theory of Drama by A.Nicoll
2. Natya Kala by DhirubhaiThakar
3. Natyalekhan by DhananjayThakar
4. Natakadeshvidesman by HasmukhBaradi
5. Gujarati theatre no Itihas by BaradiHasmukh
6. Acting is Believing by Chars McGaw
7. Art of Speech by Kethlin Rich
8. NatyaSahitynaswaroopo by Nanda kumarpathak
9. Bhavai by Sudahaben Desai
10. Bhavai by Krishnakant Kadkiya
11. NatyaManjarisaurabh by G.K.Bhatt
12. Bharat aur Bhartiya Natya Kala by Surendranath Dixit
15. Japan ni Rangbhumi by C.C.Mehta.
18. Abhinav Raga Manjari by Pt. Bhatkhande
20. Abhinav Geet Manjari by Ratanjankar
SECOND YEAR - SEMESTER IV
Course - 26: FOUNDATION I-4
Course - 26(i): FOUNDATION I-4 Tamil

Theory

Credits 4

1. நூற்றாண்டு இடைப்புகள்
   1.1 முற்பிற்புகள்
   பிள்ளைய விற்பனை
   பாடல் சாலைகள்: 35, 155, 191, 215, 263
   1.2 முற்பிற்புகள்
   விழுக்காட்டு விற்பனை
   பாடல் சாலைகள்: 2, 17, 18, 360, 379
   1.3 ஊன்னுகள்
   போக்குமுனை சூழல் - நான்கு முற்பிற்புகள் பாடல் சாலைகள் (31 - 40)
   1.4 போக்குமுனைத் துறை
   போக்குமுனை பாடல் - 20 முற்பிற்புகள்
   பாடல் சாலை - 61 முற்பிற்புகள்
   பாடல் சாலை - 72 முற்பிற்புகள்
   1.5 பாடல்
   துரையுகதைகள் - 9 முற்பிற்புகள்
   வாழ்த்து - ஐந்து முற்பிற்புகள், 1 - 26 முற்பிற்புகள்
   1.6 பாடல்
   பாடல் சாலைகள்: 1, 8, 10
   1.7 சிறுவரம்மவிளக்குமுனை
   ஓர்ப் போக்கு சாலைகள், பகுதி 84 - 111
   1.8 பெண்களுக
   பாடல் சாலைகள்: 74, 95, 106, 107, 188, 189, 192, 204, 212, 312
   1.9 பெண்கள் முனை பாடல்
   1.10 காதல் துணைமுனை
   முனை போற்றுமுனை பாடுக்குத் தயாரிப்பு
   முனை போற்றுமுனை
   1. ஆரம்ப, நிமிடம், காலம், அழுது, இடைவிதை - அடையாள வேளாண்மை
   2. இளைய ஆரம்பமுனை பாடல் விளக்குமுனை - வாழ்த்து போற்றுமுனை
   3. முனை உணர்வு, விற்பனை உணர்வு, இளைய உணர்வு, முனை உணர்வு பாடல்
   4. வாழ்த்து - ஆரம்பமுனை, முனை போற்றுமுனை, ஆரம்பமுனை, வேளாண்மை, இளைய வேளாண்மை, காலம் வேளாண்மை, அழுது வேளாண்மை, இடைவிதை வேளாண்மை

உடையது சிற்பிக்குமுனை

காதல் - காதல் - காதல் - முனை உணர்வு சிற்பிக்குமுனை

வாழ்த்து சிற்பிக்குமுனை

காதல் - காதல் - முனை உணர்வு சிற்பிக்குமுனை
Course -26(ii): FOUNDATION I-4 FRENCH
Theory Credits 4

Course -26(iii): FOUNDATION I-4 MALAYALAM
Theory Credits 4

Course -26(iv): FOUNDATION I-4 TELUGU
Theory Credits 4

Course -26(v): FOUNDATION I-4 HINDI
Theory Credits 4

Syllabus yet to be prepared for the Course -26(ii) to Course -26(v)
Course - 27: FOUNDATION II-4 ENGLISH

Theory

Essence of the course:
This course adopts a Multi skill approach towards teaching English for under graduate students. Keeping in view the principles of Language Learning and Teaching, the course adopts an Interactive approach to teaching the language. It also aims to equip the learners with skills of self learning.

Objectives:
1. To develop fluency in conversation and efficiency in interactional skills.
2. To enhance language in use.
3. To enable the learners to use English in real-life situations.
4. To develop creative writing and speaking.

CONTENT OUTLINE

Unit I
1. The Unicorn in the Garden- James Thurber
2. Beijing Olympics Opening Ceremony- C.L.N. Prakash
3. Words easily confused
4. Verbs
5. Past Perfect tense
6. Welcome address

Unit II
1. The Many and the None- C.L.N. Prakash
2. Meeting at night-Robert Browning
3. Letter of Complaint
4. Prefixes and suffixes
5. Complex Noun Phrase

Unit III
1. Conflict with Others- C.L.N. Prakash
2. The Blue Bouquet- Octavio Paz
3. Exponents
4. Letter of negotiation
5. Use of Articles

Unit IV
1. Real Time- Amit Chaudhuri
2. The Chimney Sweeper’s Complaint- Mary Alcock
3. Word building and inversion
4. Letter to the government
5. Essay writing

Unit V
1. About an Inconvenient Truth- C.L.N.Prakash
2. Refund-Fritz Karinthy
3. Leaflet
4. Collocations
5. Discourse markers
6. Essay writing

Mode of Transaction:
Lecture, Discussion, Pair and group work in the class.

Practicum : Task and Assignment
1. Discuss the moral of the story , “The Uni corn in the garden”
2. What is the evidence of Biodiversity that we see around us?
3. Comment on the Imagery used in the poem , ‘Meeting at Night’
4. Metaphors used by the author in , “The blue Bouquet”
5. “An inconvenient truth” – What is the truth and for whom is it inconvenient?

Mode of Assessment:
Written test, Task and Assignment

Reference
1. Impressions I .A Multiskill Course in English by GeethaRajeevan and G. Radhakrishna Pillai
2. Intermediate English grammar -Reference and practice book for south Asian students with
   Answers by Raymond Murphy second edition: Cambridge University press 1997 (unit 68- 136)
SEMESTER IV

CORE 13 - THEORY OF NUMBERS, MULTIPLE INTEGRALS AND FOURIER TRANSFORM

ESSENCE OF THE COURSE:

This course aims to provide a first approach to the subject Theory of numbers, Multiple integrals and Fourier transform. The focus of the course will be the study of Prime and composite numbers, Resolution of a composite number into prime factors, Divisors of a given number N, Euler’s function Ø(N), Value of Ø(N), Integral part of a real number, the highest power of a prime P contained in n! Congruences, Fermat’s theorem and Wilson’s theorem, Multiple Integrals, Jacobian - Double and triple integrals, Properties of Fourier transform, Linear property, shifting property, Change of scale property, Modulation theorem, Fourier transform of integrals, Relation between Fourier and Laplace transforms, Convolution theorem for a Fourier transform, Parseval’s identity, Fourier sine transform and Fourier cosine transform.

OBJECTIVES:
At the end of the course the student teachers will be able to

- acquire the knowledge of concepts of the Theory of numbers, Multiple integrals and Fourier transform
- understand the concepts of the theory of numbers, multiple integrals and Fourier transform
- apply the theory of numbers, multiple integrals and Fourier transform
- apply concepts of multiple integrals to applied problems.

CONTENT OUTLINE

UNIT-I Theory of Numbers:
Prime and composite numbers - Resolution of a composite number into prime factors - Divisors of a given number N - Euler’s function Ø(N) - Value of Ø(N) - Integral part of a real number - The highest power of a prime P contained in n! Congruences - Fermat’s theorem and Wilson’s theorem.
UNIT-II. Multiple Integrals:
2.1 Jacobian - Double and triple integrals - Evaluation in simple cases using Jacobians.
2.2. Changing the order of integration - simple problems

UNIT-III Fourier Transform:
Definition - Properties of Fourier transform - Linear property - Shifting property - Change of scale property - Modulation theorem - Fourier transform of integrals - Relation between Fourier and Laplace transforms - Convolution theorem for a Fourier transform - Parseval’s identity - Fourier sine transform and Fourier cosine transform.

Text book: Text book:
M.K. Venkataraman, Engineering Mathematics (Relevant portions).

REFERENCE BOOKS
1. Shanti Narayan, Integral Calculus, S.Chand & Co. New Delhi, 2001
CORE 14 - REAL ANALYSIS – 1

ESSENCE OF THE COURSE:

This course presents important concepts Sets and Functions, Sequence and Series of Real Numbers, Limits and Metric Spaces and Continuous Functions on Metric Spaces. This Course focuses on the role of Real number systems, set theory and metric spaces. To introduce the concepts which provide a strong base to understand and analysis mathematics. This Course deals with the behaviour of sequences and series. On successful completion of this course the students should gain the knowledge about real numbers, sets and metric space.

OBJECTIVES

At the end of the course the student teachers will be able to
1. acquire the knowledge of role of Real number system
2. introduce the real number system, properties and the properties of various functions
3. defined on the real line.
4. learn the concept of convergence of sequence and series of Real number system.
5. understand the real number system and countable concepts in real number system.
6. provide a Comprehensive idea about the real number system.
7. explain the concepts of Limit of a function on the real line and Continuous function.
8. find the convergence and divergence of series and the methods of testing the
9. convergence.
10. use the concepts, techniques and applications of Limit and Convergence.
11. develop the skill of proving the theorem.
12. develop a working knowledge to handle practical problems.

CONTENT OUTLINE

UNIT: 1. Sets and Functions:
Sets and elements Operations on sets Functions - Real valued functions Equivalence Countability Real Numbers Least upper bound Greatest lower bound.

UNIT:2. Sequence of Real Numbers:
Definition of sequence and subsequence Limit of a sequence Convergent Sequence Bounded Sequence Monotone Sequence Operation on convergent sequence - Limit superior and limit inferior Cauchy sequence.

UNIT: 3. Series of Real Numbers:
Convergence and divergence Series with non-negative terms Alternating Series Conditional convergence and absolute convergence. Rearrangement of series (statements only) Tests for absolute convergence (statements only) - Series whose terms form a non-increasing sequence Summation by parts.

UNIT: 4. Limits and Metric Spaces:
Limit of a function on the real line - Metric spaces (Examples 4 and 5 under 4.2 c to be omitted) - Limits in metric spaces.

UNIT: 5. Continuous Functions on Metric Spaces:
Functions continuous at a point on the real line Reformulation Functions continuous on a metric space Open sets and closed sets - More about open sets Connected sets.

TEXT BOOK: Treatment as in Richard R Goldberg, Methods of Real Analysis, Indian Edition, 1970. Note: TEN questions are to be set and Three Fifths of the paper carries full marks.
REFERENCE:
2. Algebra – Prof. S.Surya Narayan Iyer
3. Algebra – Prof. M.IFrancis Raj
7. D. Somasundaram , B. Choudhary, A First Course in Mathematical Analysis,Narosa Publishing House, 2002
CORE 15 - MECHANICS -I: STATICS

Essence of the course

This course familiarizes students with the principles of static equilibrium by applying Newton's laws of motion to solve mechanics problems with emphasis on problem identification, formulation and solution. Emphasis is placed on drawing free body diagrams and self-checking strategies. Students will demonstrate an ability to apply fundamental concepts learned in calculus and physics to set up and solve mechanics problems such as equilibrium problems in two and three dimensions. Topics include introduction to forces; 2D equilibrium of particles and rigid bodies and friction.

Objectives

On the completion of this course students are expected to be able to:

- recognize different force systems, moments and couple.
- apply equilibrium equations in statics.
- acquire the ability to understand Newton's law in motion, and recognize different kinds of particle motions.
- Understand that the shape of a uniform string hanging under gravity is a catenary.
- Find the sag of the telephone wire approximately.

Content outline

1. Forces:
Definition of a force - Types of forces: gravity, tension, resistance, friction - Magnitude and direction of the resultant of forces on a particle - Equilibrium of a particle.

2. Equilibrium of a Particle:
Equilibrium of a particle acted on by three forces - The triangle of forces - Necessary and sufficient conditions for the equilibrium of a particle under three forces - Lami's theorem - Necessary and sufficient condition for the equilibrium of a particle under a system of forces - Equilibrium of a particle on a rough inclined plane.

3. Forces on a Rigid Body:
Equivalent systems of forces - Resultant of parallel forces - Couples - Resultant of several coplanar forces - Moment of the resultant force - Varignon's theorem - Couples in a plane or in parallel planes - Resultant of a couple and force.

4. Three coplanar forces on a rigid body - Equation of the line of action of the resultant - Equilibrium of the rigid body under three coplanar forces.

5. Hanging Strings:
Equilibrium of a uniform homogeneous string - Sag - Suspension bridge.

Text book:

Unit 1: Chapter 2
Unit 2: Chapter 6
Unit 3: Chapter 7 (up to Section 7.9)
Unit 4: Chapter 7, Sections 7.10 to 7.12
Unit 5: Chapter 11
Note: 10 questions are to be set, with two questions from each unit. A candidate has to answer any 6 questions. All questions carry equal marks.

Mode of transaction of the course
Lectures supported by modes developing material covered in lectures. These modes include problem-solving tutorials, team teaching, debates, & workshops.

Practicum: Task & assignment
Two questions from each unit

Mode of assessment
Written test, task & assignment

Reference
There are lots of text books available that cover the subject of Statics, the following few are recommended as supplementary resources to the course content. Many worked examples and tutorial questions are available to use as additional practice exercises.

Unit 1: Chapter 2
Unit 2: Chapter 6
Unit 3: Chapter 7 (up to Section 7.9)
Unit 4: Chapter 7, Sections 7.10 to 7.12
Unit 5: Chapter 11
CORE 16 (SUPPORTIVE 4) CHEMISTRY - II

Objectives:

To get a good exposure to the basic concepts of chemistry to enable them to pursue careers related to chemistry and enable them to learn their subject better.

UNIT 1: INORGANIC CHEMISTRY
1.1 Hydrogen bond:
   a) Detection, molecular weight of acetic acid in benzene, boiling point of water
   b) Strength of hydrogen bonds: Effect of temperature (ice and water), inter and intra molecular hydrogen bonds, separation of o- and p-nitrophenols by steam distillation, solubility of polar organic compounds in water (ethanol and phenol)
1.2 Lanthanides:
   a) Ionic radius, lanthanide contraction
   b) Extraction of lanthanides - ion exchange method

UNIT 2: ORGANIC CHEMISTRY
2.1 Polycyclic aromatic hydrocarbons:
   a) Naphthalene and anthracene: Isolation from coal tar, Haworth synthesis
   b) Products of electrophilic substitution: nitration, halogenation, sulphonation, addition reactions with hydrogen and bromine, carcinogenisity of higher poly aromatic hydrocarbons.
2.2 Heterocyclic compounds:
   a) Preparation of furan, pyrole, thiophene and pyridine
   b) Products of electrophilic aromatic substitution: nitration and Reimer-Tiemann Reaction
2.2 Medicinal chemistry:
   a) Classification of drugs
   b) Sulpha drugs: synthesis of sulphanilimide, structure and uses of sulphadiazine and sulphamethoxazole
   c) Antibiotics: Structure of penicillin, broad spectrum antibiotics and their uses (structural elucidation is not required)
   d) Antipyretics: synthesis and uses of aspirin
   e) Antiinflammants: Ibubrufan

UNIT 3: PHYSICAL CHEMISTRY
3.1 Energetics:
   a) Law of thermodynamics: Concepts of internal energy and enthalpy.
   b) Hess’s law, heat of formation, combustion, neutralization, bond energy, bond dissociation energy, Kirchoff’s equation
3.2 Electrochemistry:
   a) Determination of equivalent conductance, Kohlrausch’s law, determination of $K_a$ and $K_b$, conductometric titrations, acid-base precipitation
   b) EMF, standard reduction potentials, reference electrodes: primary (SHE) and secondary (Calomel)
3.3 Solid state chemistry: Born-Haber cycle, lattice energy, solubility of ionic compounds.
UNIT 4: BIO-ORGANIC CHEMISTRY (9 hours)

4.1 Carbohydrates:
   a) Classification, mention of structures of glucose, fructose, and sucrose
   b) Photosynthesis: nature, energy transformation, CO₂ fixation

4.2 Proteins:
   a) Formation of amino acids and polypeptides
   b) Sequence determination: N-terminal and C-terminal amino acid analysis (Sanger’s and carboxypeptidase methods)

4.3 Enzymes:
   a) Classification, nature and properties
   b) Factors affecting enzyme reaction
   c) Lock and key model inhibition.

UNIT 5: INDUSTRIAL CHEMISTRY

5.1 Energy resources and applications:
   a) Sources of energy: renewable (solar, wind, tidal) and non-renewable (coal, lignite, petroleum and natural gas)
   b) Liquid fuels: fractional distillation of petroleum, thermal and catalytic cracking, octane number.
   c) Nuclear energy: fission and fusion principles, use of radio isotopes (medicinal, agriculture and industry)

5.2 Chemistry and agriculture:
   a) Fertilizers: manufacture of urea, ammonium sulphate, superphosphate of lime and triple superphosphate, source of K, mixed fertilizers, role of macro and micro nutrients.
   b) Pesticides: Examples of common insecticides (DDT, BHC)
   c) Herbicides: 2,4-D and 2,4,5-T
   d) Fungicides: Bordeaux mixture

TEXT BOOKS:

01. C.N.R. Rao, University General Chemistry, Macmillan Co. India, Ltd, 1973
03. R.Gopalan, S.Sundaram, Allied Chemistry, Sultan Chand and sons, 1995

REFERENCE BOOKS:

OBJECTIVES:

To enable the students to understand better the concepts of organic analysis and appreciate better the applications of analytical methods in industry.

PRACTICALS:
1. Estimation of ascorbic acid
2. Estimation of HCl (Std. KHP x NaOH x HCl)
3. Estimation of mixture of Na₂CO₃ and NaHCO₃
4. Estimation of KMnO₄ using standard ferrous sulphate
5. Estimation of KMnO₄ using standard dichromate
6. Estimation of FeSO₄ using standard dichromate
7. Estimation of phenol or aniline
8. Determination of pH of soil, water, ...
9. Demonstration experiments:
   a) Column Chromatography of food dyes
   b) TLC - Separation of triglycerides
   c) Paper chromatography - separation of amino acids

Reference books
Course – 32: EDN I(PE)  CHILDHOOD AND GROWING UP – II

Essence of the course:
This course makes student-teacher to understand the systematic study of childhood, adolescence and their development, make them to learn children at different ages through theoretical and interaction with learners in school. This course makes student-teachers to understand the developmental nature of the adolescents and it helps them to realize the child exploitation in different aspects, marginalization & stereotyping nature in our culture. In addition to that, it focuses on child labour and how do media focus their realities.

Objectives:
At the end of the course the student teachers will be able to

• develop interest to know more about the process of Marginalisation of social difference
• develop a desirable positive attitude towards society stereotype, child law and media of childhood & adolescence
• appreciate the transitional and critical age of childhood and adolescence
• apply the various socio-assessment tools in their real life
• analyse about self

CONTENT OUTLINE

Unit 1: Socio-cultural impact on learner

Unit 2: Representing the realities

Unit 3: Marginalization of social difference
Underprivileged sector of society–(Girl child, children in dalit household and differently abled) –present status of underprivileged in India- delinquency child –measures to eradicate marginalization –community involvement, implementation of laws, internalizing values

Unit 4: Personality and Social Cognition

Unit 5: Transfer of Learning & Developing Socio - Assessment ability.
Modes of Transaction:
Lecture, Assignment, Seminar, Group discussion, Workshop, Film Show, Audio – Video

Practicum: Task and Assignment
1. Prepare a Socio-metric matrix in a classroom
2. Conduct a study on teacher’s knowledge about the cultural space of the learner in a classroom
3. Write a critical study report on portrayal about adolescence in media - particularly Language based
4. Make a survey and write a report based on child Labour status in your Locality
5. Select 30 Girl Child in your village/city and study their social status
6. Interview at least 10 teachers, parents and students about marginalization of social difference and report their suggestions
7. A study on the relational status about self and his/her socio-economic background
8. Conduct a study among the class students’ family members relationship with the help of Genogram & Eco map

Modes of Assessment:
Written test, seminar, presentation, Field Visit

References:
Course -33: EDN I(PE) GENDER SCHOOL AND SOCIETY

Theory

Essence of the course:
The course is humble effort made to sensitize gender equality in society and school. The course will enable the student to identify the gender crisis, create awareness on gender equality, refine women’s students being prey to untold atrocities of home and society and equip students with available laws.

Objectives:
At the end of the course the student teachers will be able to
- acquire knowledge on Terms and concepts Gender, school and society.
- understand the challenges faced by the Gendered roles in society through a variety of institutions.
- apply the knowledge to critically analyse the gendered roles, relationships and ideas in textbooks and curricular to nurture or challenging gender disparity of gender inequalities prevailing in the society.
- develop the life skills courses in schools and to deal with some issues of gender identity roles.
- develop interest in studying gendered roles, relationships and ideas in textbooks and curricular.
- develop a positive attitude towards roles and institutions in society.

CONTENT OUTLINE

Unit 1: Gender identity construction

Unit 2: Gender in society and groups
Gender in society – definition, elements of society – agencies of education in society (formal, informal and non-formal) –social system – social structure – social groups –social stratification – social institution (family, caste, religion, culture, media, law and state) and their influence on gender roles.

Unit 3: Gender, sexuality, sexual harassment and abuse
Gender roles and male/ female interaction –men and women in the public world – sex segregation in occupations – linkages and differences between reproductive rights and sexual rights – development of sexuality including primary influences in the lives of children (gender, body image, role models) –sites of conflict: social and emotional understanding – importance of addressing sexual harassment in family, neighbourhood, other formal and informal institutions –agencies perpetuating violence: family, school, work place and media (print and electronic) – Institutions redressing sexual harassment and abuse.

Unit 4: Gender and Law
Gender perspectives in policy and planning – incentive for girls – improving the quality of government schools – gender inputs in school curricular and text books – women teachers in school – introduction to law related to women (Rape, Dowry, Re-marriage, Divorce, Property, Inheritance- women reservation bill- history and current status. The Indian Constitution and provisions according to women-human rights and women rights.

Unit 5: Gender and quality education

Gender disparity and gender parity – quality education for girls – curricular and co-curricular activities to achieve gender parity – life skill course to deal with gender issues – critical analysis on co-education – strategies to develop parity, gender equality and empowerment – support services for girl’s education – sustainability approach to equality and empowerment – construction of ideas on gender in school framework during post independence period – gender and the hidden curriculum – Teacher as an agent of change- women empowerments through social reform movements

Mode of Transaction:
Lecture, Discussion, Team Teaching, Case Study, Film Show

Practicum: Task and Assignment
1. Conduct a gender ratio survey in a village and write a report.
2. Analyse and report the differential treatment between the gender in family and neighbourhood.
3. Write a critical report on challenges faced by different women groups in present society based on valid published reports.
4. Organizing drama and debate to develop awareness for sexual abuse.
5. Women day celebration and projects related to women personalities.

Mode of Assessment:
Written test and Task and assignment

References:
Course – 34: EDN II(EPC)  CRITICAL UNDERSTANDING OF ICT

Practicum  Credits 2

Essence of the course:

The ultimate aim of teaching ICT in the discipline of Education is to disseminate the ICT skills across the disciplines and aspire for multiple trajectories of best practices as per needs of the special discipline. The constantly developing field of ICT will always need exploration of new technological advancements in the context of teaching-learning. This course aims to give an understanding of ICT and its potentials in changing social contexts. It will give a broad understanding of ICT that include computing and communication technologies. The students will be able to use basic office automation, Software and other utilities for supporting teaching-learning. This course focuses on equipping the student teachers with

1. A social perspective on the implications of ICT for larger society.
2. Skills of basic computer literacy and ICT-aided learning; and
3. Skills of applications of ICT in administrative and academic support systems;

Objectives:

At the end of the course, the student teacher will be able to

- acquire knowledge about information and communication technology with its educational aims and principles
- understand effective uses of ICT in teaching-learning, administrative and academic support systems
- apply ICT knowledge in build the 'digital public' and explore software for ICT Integration and Evaluation Procedures
- develop skill in creating 'learning and teaching resources' based on ICT
- create interest in ICT Integration with Pedagogy practices
- understand the social, economic, security and ethical issues associated with the use of ICT
- acquire the skill of maintaining the computer system and the skill of trouble shooting with the help of Anti-Virus and Other tools.
- elucidate the application of ICT for Teaching Learning
- develop various skills to use computer technology for sharing the information and ideas through the Blogs and Chatting groups

- CONTENT OUTLINE

Unit 1: Digital Technology and Socio-economic Context

Concepts of information and communication technology; Universal access VS Digital Divide - issues and initiatives; – Challenges of Integration of ICT in School; Aims and objectives of National Policy on Information and Communication Technology (ICT) in School Education in India; IT@ School Project; – Components and Objectives of National Mission on Education through ICT (NMEICT), Spoken Tutorials, Gyan Darshan, Gyanvani, Sakshat Portal, eGyanKosh; Virtual laboratory and Haptic technology.
Unit 2: Creation of digital resources
creation of teaching resources using Microsoft word, spreadsheet and presentation software: creating and opening documents, saving and sharing documents, text basis, formatting text/cell, unicode fonts, inserting tables, charts, picture etc., page layout, printing and presenting(slide show)documents – MS Publishing Interactive learning with whiteboards

Unit 3: ICT Integration with Pedagogy Practices and Educational Resources
Introduction to Internet: E-mail, Search Engines, Info-Savvy Skills; Digital Age Skills, safe surfing mode; – Internet resources for different disciplines like natural sciences, social sciences, Humanities and Mathematics. – General Introduction to E-learning, Mobile-learning, distance learning, On-line learning, Virtual University, Wikipedia, Massive Open Online Courses (MOOCs); – Social networking

Unit 4: Techno-Pedagogic Skills

Unit 5: ICT and General Administration in Educational Institutions

Mode of Transaction
Project method, CAI, smart board, visual excursion, Discussion, LCD Projection, Demonstration, Lecture, Web Surfing

Practicum: Task and Assignment
Software:
1. Create and present micro or macro lesson for the pedagogical subject using power point presentation and submit in the form of CD and Handouts.
2. Creating and using Blogs and Google Groups, for teaching and learning purpose.
3. Develop digital - learning video resources (using like Camtasia software) and upload to YouTube or any streaming site for educational purpose.
4. Create and present voice narration for any one topic related to your pedagogical subject.
5. List and use any two social media for publishing your article related to education.
6. Develop a report on preparing a lesson plan on any topic from your methods while using internet resources. The report should mention the details of navigating, searching, selecting, saving and evaluating the authenticity of the material and also mention how it adds or justify the facts _ figures(data), graphics, explanation and logic of the topic.
7. Projects that may involve the hardware like LCD Projector, digital camera, camcorder, scanner, Printer, interactive white board and software like word processors (MS Word/Libre Office), spread sheet and Slide Presentation (PPT/impress); and/or Creating and using Blogs and Google Groups, Google Docs
8. Integrating technology tools for material production and use in teaching learning
9. Ownership of digital resources created and used in education and developing collaborative networks for sharing and learning
10. Use of ICTs for record keeping, information management in education administration, communication and information sharing/ storing

Hardware:
1. Write a report about how to install software like word processors, spreadsheet and Slide Presentation (with pictures of installation process)
2. Make an inventory to Installation of Operating systems, Windows, installation of essential Software and Utilities; (with pictures of installation process)
3. Connect a computer with various devices including printers, scanners, external storage devices, LCD projector etc. and draw the structure and function of peripheral used.
4. Use of pre-made digital resources such as CDs, Videos available, or download from website and integrate it into meaningful lessons.
5. Practice to present the lesson using interactive whiteboard or LCD projector.

Mode of Assessment
Written test, Task and assignment

References:
3. Information Technology: The Breaking Wave, Tata Macgrov hill
11. National Mission in Education through ICT
   www.iteg.ernet.in/pter/MissionDocument_20Feb09.pdf
31. ICT transforming education: a regional guide
   http://unesdoc.unesco.org/images/0018/001892/189216e.pdf
32. Http://shodhganga.inflibnet.ac.in/bitstream/10603/36053/11/11Chapter%205.pdf
SEMESTER V
CORE 17 - REAL ANALYSIS – II

ESSENCE OF THE COURSE:

This course deals with the analytic properties of real functions and including convergence of real numbers, the calculus of the real numbers, and continuity, smoothness and related properties of real-valued functions.

This Course focuses on the Real number systems, Completeness, Compactness, Uniformly continuous functions, the Riemann integral and Elementary functions. This enable the students to provide a Comprehensive idea about the real number system and understand the concepts of Continuity, Differentiation and Riemann Integrals.

To introduce the concepts which provide a strong base to understand and analysis mathematics. On successful completion of this course the students should gain the knowledge about real and complex numbers, sets and metric space.

OBJECTIVES

At the end of the course the student teachers will be able to

1. acquire the knowledge of the concept Measure Zero.
2. learn different definitions related to Riemann Integrals.
3. learn Rolle’s Theorem and apply the Rolle’s theorem concepts.
4. understand the fundamental theorem of calculus and applications.
5. explain the given and to prove concepts in theorem.
6. apply appropriate type to evaluate improper integrals.
7. develop the skill of proving the theorem.
8. improve the skill of Problem solving in Real Analysis.

CONTENT OUTLINE


UNIT: 3. The Elementary Function, Taylor Series: Hyperbolic function - The exponential function - The logarithmic function - Definition of x power a - The trigonometric function - Taylor function – The binomial theorem - L Hopital’s rule.

MODE OF TRANSACTION OF COURSE:
Lecture Method, Problem Solving Method, Deduction and Induction Method
PRACTICUM ACTIVITIES: Task and Assignment
Two questions from each unit

MODE OF ASSESSMENT
Written test, Task and Assignment


REFERENCE:


4. D. Somasundaram, B. Choudhary, A First Course in Mathematical Analysis, Narosa Publishing House, 2002

5. N.N.sharma and A.R. Vasistha, Real Analysis, Krishna Prakashan Media (p) Ltd, 1997


CORE 18 - MECHANICS - II: DYNAMICS

Essence of the course

This course teaches students how to apply Newtonian physics to relatively simple physical situations. It follows on from the Statics course, but considers systems that are not in equilibrium i.e. with velocity and acceleration. Some of the topics covered are pure kinematics (a mathematical description of motion only), while others are kinetic (determine motion in problems involving the concepts of force and energy). The course is restricted to 2-D (planar) mechanisms.

Objectives

On the completion of this course students are expected to be able to:

1. Understand basic kinematics concepts – displacement, velocity and acceleration (and their angular counterparts).
2. Understand basic dynamics concepts – force, momentum, work and energy.
3. Understand and be able to apply Newton’s laws of motion.
4. Understand and be able to apply other basic dynamics concepts - the Work-Energy principle, Impulse-Momentum principle and the coefficient of restitution.
5. Learn to solve dynamics problems. Appraise given information and determine which concepts apply, and choose an appropriate solution strategy.
6. An ability to calculate centroids and moments of inertia.

Content outline

1. Kinematics:
   Velocity - Relative Velocity Acceleration - Angular velocity - Relative angular velocity - Rectilinear motion - Work, power and energy.
2. Central Orbit:
   Central forces and central orbit - Equations of a central orbit - Law of force and speed for a given orbit - Determination of the orbit when the law of force is given - Kepler’s laws of planetary motion.
3. Motion of a Projectile under Gravity:
   Motion of a projectile - Nature of a trajectory - Results pertaining to the motion of a projectile - Maximum horizontal range - Trajectories with a given speed of projection and a given horizontal range - Speed of a projectile - Range of an inclined plane - Maximum range on the inclined plane - Envelope of the trajectories.
4. Simple Harmonic Motion and Moment of Inertia:
   Definition of simple harmonic motion - Composition of two simple harmonic motions of the same period.
   Moment of inertia - Theorems of moment of inertia - Theorem of perpendicular axes - Theorem of parallel axes.
5. Two Dimensional Motion of a Rigid Body:
   Two dimensional motion of a rigid body - Motion of a rigid body rotating about a fixed axis - Compound pendulum - Reaction of the axis on a rigid body revolving about a fixed axis - Equations of motion for a two dimensional motion - Motion of a uniform disk rolling down an inclined plane.
**Text book:**

**Unit 1:** Chapters 1 and 4
**Unit 2:** Chapter 15
**Unit 3:** Chapter 13 (up to Section 13.9)
**Unit 4:** Chapter 5 (Sections 5.1 and 5.3 only) and Chapter 16
**Unit 5:** Chapter 17

**Note:** 10 questions are to be set, with two questions from each unit. A candidate has to answer any 6 questions. All questions carry equal marks.

**Mode of transaction of the course**
Lectures supported by modes developing material covered in lectures. These modes include problem-solving tutorials, team teaching, debates, & workshops.

**Practicum: Task & assignment**
Two questions from each unit

**Mode of assessment**
Written test, task & assignment

**Reference Book**

**Unit 1:** Chapters 1 and 4
**Unit 2:** Chapter 15
**Unit 3:** Chapter 13 (up to Section 13.9)
**Unit 4:** Chapter 5 (Sections 5.1 and 5.3 only) and Chapter 16
**Unit 5:** Chapter 17
THIRD YEAR - SEMESTER V

Course – 37: EDNI(PE) CONTEMPORARY INDIA AND EDUCATION -I

Theory Credits 4

Essence of the course:

This course provides deep and penetrating analysis of socio-economic concerns in contemporary India and the role of education in suitably meeting the challenges. All the emerging concerns are discussed in their sociological, philosophical, values, cultural, economical, constitutional, and global perspectives.

The knowledge on education, philosophy of education; educational thinkers and their contributions in education; National integration and socialization; international understanding, Indian constitution, the education policies, inclusive education and the role of education in secularism, socialism, democracy etc. will enable the student teachers to emerge as a successful teacher.

It can prove as an effective course to student teachers to understand the challenges of education in the contemporary Indian society and it will surely show the students, the right path in the field of teaching.

Objectives:
At the end of the course the student teachers will be able to

- acquire knowledge of terms and concepts used in Indian society, communities and groups with focus on government policy frame work socialisation and sociological aims of Education
- understand Inequality and the importance of equality, stratification, causes of diversity, marginalised society
- apply the constitutional values related to Education and social diversity
- develop the skills to respect collective living, resolution of tension peacefully and justly
- develop interest on language policies, multilingual education to understand contemporary India and education
- develop the attitude towards plebianisation, liberalisation, privatisation and stratification in Education from global point of view.

CONTENT OUTLINE

Unit 1: Concept and aims of education
Meaning of Education – Formal, non-formal and informal education – Various Agencies of Education – Aims of Education in Contemporary Indian society – Determinants of Aims of Education

Unit 2: Education and Philosophy

Unit 3: Education and Sociology
Meaning and Scope of educational sociology – Social Realities of Indian Society and their educational implications: Diversity in Indian Society; Inequality and Marginalization – Schisms in terms of Caste, Religion, Language, Region and their demands on Education.

Unit 4: Education, Social Change, Social Stratification and Social Transformation
The concepts of social change – Factors of social change – Role of education in the process of social change – Limitations of Education in the process of Social Change – Socialization process – agencies – role of school and family; school as a miniature society; – Social Stratification – Conceptualizing Social Stratification – Forms and Bases of Social Stratification – Impact of social stratification on education and vice versa.

Unit 5: Education and Indian Constitution

Mode of transaction of the course:
Lecture method, Peer group, Discussion method, Team teaching, Debates, Brainstorming, Workshop, Seminar, Project work, e-learning (edmoda.com)

Practicum activities: Task and Assignment
Planning and Implementation of Activities
a. field visit to vocational institutes to make reports,
b. awareness development about population explosion in rural / slum areas,
c. Preparing a presentation on rich cultural heritage of India

Mode of Assessment
Written test and Task and assignment

References:


Course – 38: EDN I(PE) LEARNING AND TEACHING-1

Theory

Credits 4

Essence of the course:
Modern world is marching towards technology and scientific innovations. Keeping these changes in mind, this course tries to enable the student teachers to be aware of learning and teaching deeply. This also intends to develop a positive attitude towards the process of teaching and learning which would help the trainees to adopt various strategies of learning and teaching with reference to various levels of learning. It also enables the trainees to adopt various modern tools and techniques for facilitating learning and teaching.

Objectives:
At the end of the course, the student teacher will be able to
- Understand the concept of learning and its importance for human excellence
- Apply the learning theories in their teaching
- Understand the processes that facilitate construction of knowledge
- Create facilitative learning environments in schools
- Understand the concept and different levels of teaching
- Adopt different teaching strategies
- Understand the models of teaching
- Adopt ICT tools for facilitating teaching and learning
- Adopt innovative practices of teaching and learning
- Understand teaching as a profession.

CONTENT OUTLINE

Unit 1: Development of learner and learning
Learning – Domains of learning for holistic development – Phases of learning – influence of peer group, group cohesion and group dynamics on learning – Development of learner as a resultant of interactions between individual potential (innate, acquired) and external environment (physical, socio-cultural, ecological, economic and technological) – Nature and nurture, continuity and discontinuity issues, growth and maturation – Implications for teachers to develop holistic understanding of the learner in context.

Unit 2: Theoretical perspectives on learning
Perspectives on human learning: Behaviourist (conditioning paradigm in brief), cognitivist, information-processing view, humanist, social-constructivist (drawing selectively on the ideas of Skinner, Piaget, Rogers, Vygotsky). – Concepts and principles, applicability and Relevance, Role of learner in various learning situations, Role of teacher in teaching-learning situations;

Unit 3: Learning in 'constructivist' perspective
Unit 4: Methods of learning
Types - individual and group methods - innovative methods, new trends in learning use of computer and networking - Influence of methods on active engagement and inquiry in learning - activity based learning - social learning - constructivism in learning - problem solving, discovery learning, mastery learning, individual and peer group learning - factors affecting learning

Unit 5: Individual differences among learners
Differential learning needs of the learners with regard to abilities: intelligences, interest, aptitude, creativity, personality, values - learning styles - language (home language and language of instruction) - sociocultural differences (cultural capital), learning difficulties, and their implications for classroom practices and teaching

Mode of transaction: Lecture, discussion, Project work, field trip, assignment, seminar, workshop

Practicum: Task and Assignment
1. Identify the learning styles of the learners and report.
2. Report based on the visit to any two types of schools regarding the records of teaching and learning
3. A case study on the success story of any one school in teaching and learning
4. Write a narrative on teaching learning process in a classroom based on observing a teacher

Mode of Assessment:
Written test and Task and assignment

References:

Theory

Essence of the course:
This course is to enable student teachers to specialize in mathematics teaching to develop an understanding of the curriculum and linking school knowledge with community life. The course includes reconstruction of mathematical knowledge through appropriate pedagogic processes and to communicate meaningfully with students.

Objectives:
At the end of the course, the student teacher will be able to

- appreciate the nature, structure, scope of Mathematics and its relation with other disciplines.
- acquire knowledge of the nature and development of Mathematics
- understand the aims and objectives of teaching Mathematics
- prepare unit plan and activities oriented Lesson plans for effective classroom communications.
- prepare the prospective Mathematics teachers as facilitators for effective teaching and learning of Mathematics.
- apply different methods and techniques of teaching of Mathematics and to employ them proficiently in the classroom.
- develop the positive attitude among the student in teaching Mathematics
- appreciate the role of Mathematics in day-to-day life
- stimulate curiosity, creativity and inventiveness in Mathematics

COURSE CONTENT

Unit 1: Nature and Significance of Mathematics

Unit 2: Great mathematicians and contributions

Unit 3: Aims, Goals and Objectives of Learning Mathematics
Aims: Practical, Disciplinary, Cultural, Vocational, Social and Aesthetic - Taxonomy of Educational of objectives: cognitive, affective and psychomotor domains for teaching Mathematics - Revised Bloom’s Taxonomy of Educational of objectives with specifications - General Instructional objectives: Knowledge, Understanding, Application, Skill, Interests, Attitude, Appreciation and Personality traits - Writing General Instructional objectives, specific learning outcomes and teaching points of various content areas in Mathematics.

Unit 4: Teaching skills
Teaching Skills – meaning, analytical approach to understanding teaching process in mathematics in terms of teaching skills – relevant teaching skill in teaching of mathematics – core teaching skills, meaning, components, observation procedure, writing lesson plan, for the following core teaching skills – Writing instructional objectives – Introducing a lesson, Fluency in Questioning, Probing Questioning, Explaining, Illustrating with Examples, Stimulus Variation, Reinforcement, Using Blackboard and Closure – micro teaching as a technique for acquiring teaching skills - Integration of Teaching Skills – Meaning, Need and Strategies – Vicarious integration and summation.

Unit 5: Methods and Techniques of Teaching for Facilitating Learning Mathematics

Modes of Transactions:

Practicum: Task and Assignment
1. Practice minimum 3 Micro teaching skills and maintain the record. (Compulsory)
2. Study any one of eminent mathematician and his contribution to development of Mathematics—submit report
3. Writing specific objectives and teaching point of content areas in Mathematics of Algebra.
4. Prepare a year plan for any standard at the Secondary level.

Learning Activities:
Learning the Content and practicing them appropriately, Oral work, drill, Review and Practising Pedagogical Aspects for different areas of School Curriculum.

Mode of Assessment:

References:

WEB Resources
1. www.infodev.org
3. www.infodev.org
5. www.classle.net
6. www.famous-mathematicians.org
7. www.thesecondprinciple.com
8. www.arvindguptatoys.com
9. www.ricum.edu.rs
10. www.ndlrn.edu.au
11. www.bbc.co.uk/learning/subjects/maths.shtml
12. www.primaryresources.co.uk/maths/maths.htm
13. www.mathtutordvd.com
Course 39(viii): Pedagogy of Physical Science I – Part 1

Theory

Essence of the course:

Physical Science is a general science, after having learning this Course, student teachers understand the epistemological and pedagogical bases of physical science subject. They Pedagogy is integration of knowledge about the learner, the subject and the societal context. This course comprises of - the nature of the physical science subject, the aims and pedagogical approaches for the teaching of physical science at different stages of school; and deeper theoretical understanding of children in diverse social contexts.

The student-teachers will revisit basic concepts of physics and chemistry which was given in upper primary and secondary school books. The student-teachers will work with such theoretical studies as well as on the field with school children from different backgrounds, They will capable to critically examine teaching learning processes that incorporate enquiry, discovery, conceptual development, activity based learning, etc. within the classroom.

Objectives:

At the end of the course, the student teacher will be able to

- acquire knowledge of nature, values and modern approaches in physical science teaching.
- understand learning objectives and curriculum approaches in physical science teaching.
- apply acquired knowledge of various methods and technique in teaching physical science.
- develop skill in adopting various approaches of learning in physical science teaching.
- develop interest in participating the practice teaching.
- develop desirable positive attitude towards contribution of eminent scientist for development of physics and chemistry.
- acquire hands-on experience in designing and developing suitable learning aids for classroom instruction.

COURSE CONTENT

Unit 1: Nature of physical science
Meaning, scope – nature of physical science: Science as a dynamic and expanding body of knowledge – Science as a process of enquiry and a process of constructing knowledge – science as interdisciplinary area of learning – values in teaching physical science: individual, social.

Unit 2: Aims of learning physical science
Aims of Learning Science – Knowledge and understanding through science – Nurturing process skills of science – basic and integrated science process skills and their fostering – Development of scientific attitude and scientific temper – Nurturing the natural curiosity, creativity and aesthetic sense. Contribution of eminent scientists: Albert Einstein, Isaac Newton, Neils Bohr, C. V. Raman, J.C. Bose, Marie Curie.

Unit 3: Learning objectives of physical science:
Meaning of learning objectives – Revision of Bloom’s taxonomy by Anderson and Krathwohl –learning objectives for upper primary, secondary and higher secondary stages – Learning objectives in the constructivist perspective.
Unit 4: Teaching skills
Teaching Skills – meaning, analytical approach to understand teaching learning process in physical science in terms of teaching skills – relevant teaching skills in teaching of physical science – core teaching skills, meaning, components, observation procedure, writing lesson plan, for the following core teaching skills –set induction, skill of explaining, skill of black board writing, skill of stimulus variation, skill of reinforcement, skill of probing questioning and skill of demonstration. – Micro teaching as a technique for acquiring teaching skills

Link practice – needs and importance.

Unit 5: Teaching resources

Machine operated aids: epidiascope, filmstrip-cum-slide projector, Over Head projector, digital projector, inter-active white board.

Non-Machine operated aids:
Graphical aids: flash cards, charts, flip chart, graphs, pictures, poster, and cut-outs.
Display Board: chalkboard, bulletin, flannel, magnetic, peg board and effective uses.

3D aids: objects, specimens, models.

Mode of transaction:
Lecture-demonstration method, Project method, Problem-solving method, CAI, Observation method (field visit/exhibition/internship), Seminar/ discussion

Practicum: Task and Assignment
1. Practice minimum 3 Micro teaching skills and maintain the record.(Compulsory)
2. “Science as a dynamic and expanding body of knowledge” prove this statement with any one of the concept in physical science from school science books.(discussion)
3. Study the scientific attitude among the school teacher in your internship programme (survey).
4. Collect information from the internet about any 2 great scientist’s contributions to society (present it in slideshow form).
5. Compare the leaning objective of physical science subject for upper primary, secondary with respect to other country through internet (Data collection).

Mode of Assessment:
Written test, Task and assignment, Laboratory work

References:

Web Resources:
1. http://famousphysicists.org/
3. www.ncert.nic.in/departments/nie/desm/publication/...phy_sci_partI.pdf
4. www.ncert.nic.in/departments/nie/desm/publication/...phy_sci TeilII.pdf
Theory

கூட்டமான கற்பதியின் முக்கியமான நான்கு வகைகளான தாவர மாணவர்களுக்கு குறிப்பிட்டு வருகையை பற்றி அறிவுற்றுயிர் விளக்கப்பட்டுள்ளது. கூட்டமான கற்பதியின் குறிப்பிட்டு தாவர வகைகளுக்கு குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றி குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருكை வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகை�ை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகை�ை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்டு வருகையை பற்றிய குறிப்பிட்
அங்க 4: மானிலங்கந் தொழிலங்கள்

மாணிலங்கந் தொழிலங்கள் தொழில் - (மதிப்பாடுகள், பணிநிலைக் கொழும்பு காலப்பரிமாணம், பணிநிலைக் குறிப்பிட்டுகிறது, அறிவியல் பணியாளர், தொழிலங்கள் - பணிகூடம் நிலை நூற்றாண்டுமை.

அங்க 5: பலகைக்கான கறிக்கல் சூழலாக்கதை வருமாறு

பலகை - கல்வி - பிரிவில் - கல்வியமைப்புக் கறி தொடர்பு - வருமாறு சூழலாக்கதை - குறிப்பிட்டும் - குறிப்பிட்டும் (குறிப்பிட்டும்) வருமாறு வருமாறு பலகைக் கறிக்கலை ஆய்வுப்பொருள் கறிக்கலைப் பயிர்ப்பிட்டும்.

கறித்தை வகைநிலை

கறித்தை, கல்வியமைப்பு, ஒளிவியல் கருவற்றங்கள், குறிப்பிட்டு விளக்கம், குறிப்பிட்டு குறிப்பிட்டும், பல்கலைக் கழகங்கள், குறிப்பிட்டு குறிப்பிட்டும், குறிப்பிட்டு பல்கலைக் கழகங்கள், குறிப்பிட்டு குறிப்பிட்டும், குறிப்பிட்டு குறிப்பிட்டும், குறிப்பிட்டு குறிப்பிட்டும், குறிப்பிட்டு குறிப்பிட்டும், குறிப்பிட்டு குறிப்பிட்டும், குறிப்பிட்டு குறிப்பிட்டும், குறிப்பிட்டு குறிப்பிட்டும், குறிப்பிட்டு குறிப்பிட்டும்.

முறை

உந்தும் தொடர்பு, முன்னோல்வி வருமாறு, வருமாறு வருமாறு நூற்றாண்டுமை, தொழிலங்கள் வருமாறு - கல்வி குறிப்பிட்டும் - பல்கலைக் கழகங்கள் பல்கலைக் கழகங்கள்.

வருமாறு பல்கலைக் கழகங்கள்

1. Practice minimum 3 Micro teaching skills and maintain the record.(Compulsory)
2. வருமாறு பல்கலைக் கழகங்கள்.
3. குறிப்பிட்டு குறிப்பிட்டு 2 வருமாறு.
4. குறிப்பிட்டு குறிப்பிட்டு பல்கலை.
5. குறிப்பிட்டு குறிப்பிட்டு பல்கலைக் கழகங்கள் குறிப்பிட்டு குறிப்பிட்டு குறிப்பிட்டு குறிப்பிட்டு குறிப்பிட்டு.

முறைந்த சுருக்கங்கள்

1. சுருக்கங்கள், பி. மாணிலங்கந் குறிப்பிட்டு, குறிப்பிட்டு பல்கலைக் கழகங்கள்.
5. குறிப்பிட்டு (2013) குறிப்பிட்டு குறிப்பிட்டு குறிப்பிட்டு, குறிப்பிட்டு பல்கலைக் கழகங்கள்.
7. பொன்முக்கியங்கள், முக்கிய (1991) குழுக்கள் தொன்மையின் பதிவுகள், தொழில்நுட்ப விளக்குகள். 

classroom.
Course – 40(ii): Pedagogy of English II – Part 1

Theory

Credits 4

Essence of the course:
Equipping the student with English knowledge for communication and Literature for appreciation. Developing the skill of communication in order to help children at various school levels towards effective communication. The course focuses on developing the ability of the future teachers to transact language in inclusive classroom.

Objectives:
At the end of the course, the student teacher will be able to
- develop English Language teaching competency.
- understand and appreciate the importance of English.
- have a critical study of learning English as a second language in the multilingual Indian Society.
- understand the role of English in India and to improve English Language attainment.
- produce the different methods, techniques and strategies of ELT.
- Prepare and use appropriate teaching aids to make teaching more effective.
- develop the various micro skills to teach English language.
- acquire the skill of preparing lesson plans to teach English.

CONTENT OUTLINE

Unit 1: Foundation and importance of English language teaching

Unit 2: Aims and objectives of teaching English as a second language
Aims of teaching English at the primary, Secondary and higher secondary level. English as a Link Language – Functions of language, Linguistic Principles of English Language Teaching; a Library Language, Window on the west, English as an asset language- Objectives of teaching English as a second language – a) skill based (LSRW); b) ICT Language-Difference between learning a mother tongue and a foreign language.

Unit 3: Teaching skills
Teaching Skills – meaning, analytical approach to understand teaching learning process in English in terms of teaching skills – relevant teaching skills in teaching of English as second language – core teaching skills, meaning, components, observation procedure, writing lesson plan, for the following core teaching skills – skill of stimulus variation, probing questions, using black board, reinforcement and explaining – using micro teaching as a technique for acquiring teaching skills – integration of teaching skill – strategies – link practice

Unit 4: Methods of teaching English
Direct method, Bilingual method, Dr. West method, Audio-video method – CAI (Computer assisted instruction), CALT (Computer assisted language teaching), CLT (Communicative language teaching)- Play-way method.

Unit 5: Acquisition of language elements
Parts of speech, Tense forms, sentence – classification; types of sentences – simple, compound and complex; pattern of sentences, forms of sentences: active and passive and question tags.

Mode of Transaction:
Use of multimedia resources, Library resources, Accessing Online input on the topic, Print versions of texts focusing on communication, Usage of ICT, Introductory lecture, Micro-teaching through video lessons, Lesson Plan preparation, Demonstration, Mind mapping, Small group discussions, Dictionary and Online referencing, Language Lab activities

Practicum: Task and assignment
1. Practice minimum 3 Micro teaching skills and maintain the record. (Compulsory)
2. Seminar on foundation and significance of English language teaching
3. Oral Communication tasks
4. Language Lab activities
5. Preparation of micro lesson plan using computer assisted instruction
6. Sessions in small or medium groups
7. Language games on grammatical structure

Mode of Assessment:
Evaluation based on documentation (written) – Address the level of pupil involvement in Group Discussion – Performance evaluation (seminar, project and assignment) – Monitor the ability to distinguish between similar concepts – Use of Checklist to monitor, rate performance in each skill – Monitoring performance of communicative tasks

References:
15. Françoise Grellet. (1986) Developing reading skills, CUB.
Course – 40 (vii): Pedagogy of Physical science II – Part 1

The same syllabus as given in course – 39 (viii)
Course – 41: EDN III(INT)  
SCHOOL INTERNSHIP

Practicum  
Credits 4

School Internship (4 Weeks)

During internship in the third year, student teacher shall spend 4 weeks, spread over several days throughout the 5th or 6th Semester. This will include one week of school engagement and three weeks of other engagements as explained in the syllabus.

This will include one week of school engagement by the student teacher making observation in the school and 3 weeks for visit to innovative centers of pedagogy and learning, educational resource centres and community resources. Within the institution, the observation will focus on understanding the institution in totality, with reference to features such as its philosophy and aims, organization, teachers’ role, student needs with respect to their development, curriculum, its transaction and assessment. This period can also be spent for working on projects and tasks based on the course papers in school or out of the school. The observation record and/or project report of the student teacher should be the base for awarding CCE marks by the faculty.

Course – 42: EDN III(INT)  
COMMUNITY LIVING CAMP

Practicum  
Credits 2

Each college of education shall organize a camp of a minimum of 5 days and provide training on community life, First-aid/ Scouts & Guides /Social service / health and hygiene/etc. the camp may preferably be held outside the college in a rural setting.

The 5 days programme should include the participation of student teachers in community life, awareness creation on clean India, Environment, disaster management and other topics of social and current interest, tree plantation, cultural programme and other activities in the village along with local people.

A self-study report regarding the camp from planning stage to camp evaluation stage along with necessary photograph should be submitted for continuous and comprehensive evaluation.
Course -43: ADVANCED(EPC) - SOFT SKILL

Practicum

Objectives
- To develop communication competence in prospective teachers.
- To enable them to convey thoughts and ideas with clarity and focus.
- To develop report writing skills.
- To equip them to face interview & Group Discussion.
- To inculcate critical thinking process.
- To prepare them on problem solving skills.
- To provide symbolic, verbal, and graphical interpretations of statements in a problem description.
- To understand team dynamics & effectiveness.
- To learn leadership qualities and practice them.

Unit 1: Problem Solving skill and Decision Making Skill

Problem Solving: Identifies and states the problem - Views problems as a stepping stone to success -Finds ways to solve different kinds of conflicts

Decision Making: Decisive and convincing - able to analyse the alternatives critically - Takes decisions logically - Shows readiness to face challenges

Unit 2: Critical Thinking & Creative Thinking

Critical Thinking: Assesses the statements and arguments - Examines the problems closely - Listens carefully and gives feedback - Tries to find out alternatives and solutions -Questions relevantly

Creative Thinking: Ability to find creative and constructive solutions to problems and issues - independent in thinking - fluency in expression - rich imagination and is able to think out of the box.

Unit 3: Interpersonal Relationships

able to interact effectively with peers and teachers - cheerful and friendly - Exhibits fine etiquettes and other social skills - share and discuss the feelings with others - Responsive to others’ interests and concerns - Teambuilding, respecting and sharing responsibility, Group Discussion, Presentation Skills, Technology-based Communication.

Unit 4: Effective Communication Skill

the difference between assertive, aggressive and submissive manners of communication - able to make use of speech, action and expression while communicating - Listening Skills: Exhibits good listening skills - Non-verbal Communication and Body Language, uses gestures, facial expressions and voice intonation to emphasize points - Clarity and Concision

Writing Skills, Technical Writing, Letter Writing, Job Application, Report Writing, Interview Skills,

Unit 5: Self-Awareness and Empathy
Self-Awareness: aware of physical/social and emotional self - Self-respecting - Aware of strengths and weaknesses - Adopts optimistic approach - the confidence to face challenges

Empathy: Demonstrates ability to respect others - Managing Emotions - express feelings in a healthy manner - Remains cool and calm under adverse conditions - Dealing with Stress

REFERENCE:
- Shalini Verma (2014); “Development of Life Skills and Professional Practice”; First Edition; Sultan Chand (G/L) & Company
- John C. Maxwell (2014); “The 5 Levels of Leadership”, Centre Street, A division of Hachette Book Group Inc.
- CBSC(2010), “Manual for Teachers on School Based Assessment Classes VI to VIII”, New Delhi
SEMESTER VI

CORE 19 - COMPLEX ANALYSIS-I

Essence of the Course:
This course is an introductory course on Complex Analysis. It introduces students to the complex numbers system and varieties of operations, analyses and problems that may arise within the context. It also equips the students with mathematical techniques and skills to handle such cases. This course extends calculus to cover functions of a complex variable; it introduces complex variable techniques which are very useful for mathematics, the physical sciences and engineering. Topics include complex differentiation, planar mappings, analytic and harmonic functions, conformal mapping.

Objectives: The Objectives of this course are to
On the completion of this course students are expected to be able to:
- Understand basic complex numbers system and varieties of operations, analyses and problems
- Understand basic functions of a complex variable.
- Learn different definitions related Complex Analysis
- Learn complex differentiation, planar mappings, analytic and harmonic functions, conformal mapping.
- Explain the given and to prove concepts in theorem.
- Apply appropriate type to evaluate complex differentiation.
- Develop the skill of proving the theorem.
- Improve the skill of Problem solving in complex Analysis.

CONTENT OUTLINE

UNIT: 1. Complex numbers Definitions - Algebraic properties - Cartesian co-ordinates - Triangular inequality - Polar co-ordinates - Powers and roots Region in the complex plane - The point at infinity.


UNIT: 4. Elementary functions - Exponential function - Trigonometric functions and their properties - Hyperbolic functions - Logarithmic function - Branches of log z - Further properties of logarithms - Complex exponents - Inverse trigonometric functions.

UNIT: 5. Mapping by elementary functions - The linear function $1/z$ - Linear fractional transformation - The function $z^n$ - The function $z^{1/2}$ - The functions $W = \exp z$, $W = \sin z$, $W = \cos z$ - Successive transformation $W = z + 1/z$. 
Mode of transaction of the course

Lecture method, Problem solving method, Discussion method, Seminar, Project Work.

Practicum activities: Task and Assignment

Two questions from each unit

Mode of Assessment

Written test and Task and assignment

References:


1: Chapter 1 Unit 2: Chapter 2 (Relevant portions) Unit 3: Chapter 2 (Relevant portions) Unit 4: Chapter 3 Unit 5: Chapter 4

Reference books:


6) R. V. Churchill, complex Variables and Applications.
CORE 20- OPERATIONS RESEARCH - I

Essence of the course:
Operations Research (also called Management Science) is the study of scientific approaches to decision-making. Through mathematical modeling, it seeks to design, improve and operate complex systems in the best possible way. The mathematical tools used for the solution of such models are either deterministic or stochastic, depending on the nature of the system modeled. In this class, we focus on basic deterministic models and methods in Operations Research as well as stochastic models. In this class, you will learn very powerful modeling and solution techniques for decision-making problems that are used today by many successful companies to help them save/earn millions of dollars. The module covers topics that include: linear programming, transportation, assignment, dynamic programming and integer programming. Analytic techniques and computer packages will be used to solve problems facing business managers in decision environments. The module covers topics that include: linear programming, Transportation, Assignment, and CPM/MSPT techniques. Analytic techniques and computer packages will be used to solve problems facing business managers in decision environments.

Objectives:
At the end of this course the students will be able to
➢ Formulate a real-world problem as a mathematical programming model.
➢ Understand the theoretical workings of the simplex method for linear programming and perform iterations of it by hand.
➢ Understand the relationship between a linear program and its dual, including strong duality and complementary slackness.
➢ Perform sensitivity analysis to determine the direction and magnitude of change of a model's optimal solution as the data change.
➢ Solve specialized linear programming problems like the transportation and assignment problems.
➢ Understand the applications of basic methods for integer programming Model a dynamic system as a queuing model and compute important performance measures.

CONTENT OUTLINE
1. Linear programming problem Graphical method - Simplex method.
2. Transportation problem.
4. Replacement problem Replacement of items that deteriorate with time - Replacement of items that fail completely.
5. Network analysis Basic Concepts Construction of network diagram CPM PERT.

Text book:
Unit 1: Chapter 2 Sections 2.1 to 2.3 and Chapter 3 Sections 3.1 to 3.3
Unit 2: Chapter 6 Sections 6.1 to 6.8
Unit 3: Chapter 7 Sections 7.1 to 7.4
Unit 4: Chapter 18 Sections 18.1 to 18.3
Unit 5: Chapter 19 Sections 19.2 to 19.4 and 19.6 to 19.7

Reference books:
THIRD YEAR - SEMESTER VI

Course -46: EDN I(PE) - LEARNING AND TEACHING – II

Theory

Essence of the course:
Modern world is marching towards technology and scientific innovations. Keeping these changes in mind, this course tries to enable the student teachers to be aware of learning and teaching deeply. This also intends to develop a positive attitude towards the process of teaching and learning which would help the trainees to adopt various strategies of learning and teaching with reference to various levels of learning. It also enables the trainees to adopt various modern tools and techniques for facilitating learning and teaching.

Objectives:
At the end of the course, the student teacher will be able to
- Understand the concept of learning and its importance for human excellence
- Apply the learning theories in their teaching
- Understand the processes that facilitate construction of knowledge
- Create facilitative learning environments in schools
- Understand the concept and different levels of teaching
- Adopt different teaching strategies
- Understand the models of teaching
- Adopt ICT tools for facilitating teaching and learning
- Adopt innovative practices of teaching and learning
- Understand teaching as a profession.

CONTENT OUTLINE

Unit 1: Innovative practices in learning
Techniques for higher learning-conference, seminar, symposium, workshop and panel discussion, field trips, social camps, educational tours, ICTs and changing venues of teaching and learning, strategies for active learning, multicultural understanding in teaching and learning, learning with new technologies, online tools of learning, pedagogy of online learning and virtual learning.

Unit 2: Concept of Teaching
Meaning, definitions, criteria for teaching – teaching an art or a science? – relationship between teaching and learning – analysis of the concept of teaching - teaching as a deliberately planned process: analysis in terms of teaching skills – general model of instruction – Pre-active, Interactive and Post active phases and teachers role in them.

Unit 3: Approaches to Teaching
Various Approaches to Teaching, such as, Behaviourist, Cognitivist, Constructivist, Connectionist, Participatory, Cooperative, Personalized, Wholistic

Unit 4: Models of Teaching
Models of Teaching-Meaning and elements and families of models of teaching-Information processing models(Concept Attainment and Advance organizer models), Social interaction
models (Jurisprudential model) – Personal development model (Non-directive teaching) – Behavior modification model (Contingency Management)

Unit 5: Teaching as a profession and values of teachers
Profession – meaning, characteristics – professional ethics and values - code of ethics – critical analysis of teaching as profession, job and occupation, profession and professionalism, Skills and competencies required for a teacher, Teacher as a purveyor and facilitator of knowledge and Essential qualities of a teacher.

Mode of transaction: Lecture, discussion, Project work, field trip, assignment, seminar, workshop

Practicum: Task and Assignment
1. Writing criticism on any one of the innovative practices in learning (Symposium, Seminar, Workshop or Panel Discussion)
2. Analyze and record the suitability of different tools of ICT for learning.
3. Teacher trainee participation in observation and reporting of the learning aspects of marginalised students in school learning.

Mode of Assessment:
Written test and Task and assignment

References:
publication Pvt Ltd, New Delhi.
17. Quazi Ferdoushi Islam (2012), Educational Psychology, New Delhi: Dorling Kindersley
(India) Pvt. Ltd., Licenses of Pearson in South Asia - Core Paper II
18. Roberts T.B. (Ed) 1970. *Four Psychologies Applied to Education*: Freudian, Behavioral,
Humanistic, Transpersonal, NY.
Course - 47: EDN I(C&PS) - CONTEMPORARY INDIA AND EDUCATION -II

Theory

Credits 4

Essence of the course:
This course provides deep and penetrating analysis of socio-economic concerns in contemporary India and the role of education in suitably meeting the challenges. All the emerging concerns are discussed in their sociological, philosophical, values, cultural, economical, constitutional, and global perspectives.

The knowledge on education, philosophy of education, educational thinkers and their contributions in education, National integration and socialization, international understanding, Indian constitution, the education policies, inclusive education and the role of education in secularism, socialism, democracy etc. will enable the student teachers to emerge as a successful teacher.

It can prove as an effective course to student teachers to understand the challenges of education in the contemporary Indian society and it will surely show the students, the right path in the field of teaching.

Objectives:
At the end of the course the student teachers will be able to

- acquire knowledge of terms and concepts used in Indian society, communities and groups with focus on government policy frame work socialisation and sociological aims of Education
- understand Inequality and the importance of equality, stratification, causes of diversity, marginalised society
- apply the constitutional values related to Education and social diversity
- develop the skills to respect collective living, resolution of tension peacefully and justly
- develop interest on language policies, multilingual education to understand contemporary India and education
- develop the attitude towards plebianisation, liberalisation, privatisation and stratification in Education from global point of view.

CONTENT OUTLINE

Unit 1: Education for Marginalised
Marginalized population (economically, socially, culturally) — reservation policies — education and social equalisation — social process, social interactions and social movements — education for diversities — schools under different management — public school a broad perspective – education as public property – education for global equality.

Unit 2: Language policies in education.
Language policies — during post-independence period — three language formula — mother tongue as medium of instruction — English versus regional language as medium of instruction.

Unit 3: Issues in education
Equalization of Educational Opportunities — SC/ ST, OBC, Women, Handicapped and religious minorities — Universalization of education with respect to access, enrollment, retention and achievement — Ensuring right to education — under employment, unemployment

**Unit 4: Programmes and policies**

**Unit 5: Initiatives for educational development in India**
Publication of dispatches– implementation of policies – education in five year plans– role of education in community mobilisation– integration of school and community work– role and responsibilities of teacher – Education policy under debates over time – problems in implementation, financial allocation, field condition and pressure groups – comparison of issues between pre and post-independence period.

**Mode of transaction of the course:**
Lecture method, Peer group, Discussion method, Team teaching, Debates, Brain storming, Workshop, Seminar, Project work, elearning (edmoba.com)

**Practicum activities: Task and Assignment**
1. Study the impact of Right to Education Act on schools
2. Critical Analysis of Different Committees and Commissions on Education
3. Study of Educational Process in Private Schools
4. Planning and Implementation of Activities (any one)
   a. Eco-Club,
   b. instructional material to inculcate values,
   c. creating awareness among SC/ST students about various schemes and scholarships available to them,
   d. survey of schools to see the implementation of various incentives of government to equalize educational opportunities

**Mode of Assessment**
Written test and Task and assignment

**References:**
Course -48: EDN I(PE) SCHOOL MANAGEMENT - I

Theory

Credits 4

Essence of the course:
The focus of the course is on the essentials of school management and the challenges therein. This course is designed to throw light on the concepts of management related to School. The purpose is to foster proper understanding of these essential concepts and to create necessary managerial skills and capabilities among student teachers so as to enable them efficiently manage schools.

Objectives:
At the end of the course, the student teacher will be able to
- Understand the basic concepts of school management.
- Understand different components of school management
- Realize the multifaceted role of teacher/head teacher.
- Sensitize the student teachers about the concept of child rights in the process of School Management.
- Explain the factors contributing to the success of supervision and to acquaint with the modern trends in Supervision and Inspection.
- Discuss the present examination system and suggest some innovations.

CONTENT OUTLINE

Unit 1: Introduction to School Management
Meaning, Definitions, Aims and Scope of School Management - Objectives, Principles and Types of Educational Management, Theories of management relevant to School - Administrative Structure of Education in India - Vision and Mission of Educational Institutions: Primary, Secondary, and Higher Secondary

Unit 2: School as an Organisation

Unit 3: Teacher and School Management
Concept of Effective Teaching - Code of Conduct: Professional ethics - Qualification of effective teacher - Evaluation of Effectiveness - Professional Growth – Significance of (INSET: In-service Education for Teacher) - Status of the Teacher - Accountability of Teacher - Recommendations of various commissions.

Unit 4: Head Teacher as School Manager

Unit 5: Management of Resources in School
Issues related to management of Physical Resources of a School, Human Resource Management — concept of Human Relations in a School, Group Dynamics, Motivating
People, Communication, Management of Teaching-Learning Process, Essentials of Classroom Management, Financial Management, and Budgeting, Office Management

**Mode of Transaction:**
Lecture, Discussion, Project work, Field visits, Assignment, Seminar, Workshop, etc

**Practicum: Task and Assignment**
1. Critical analysis of recommendations of various committees and commissions on School Plant/ School-Community relationship
2. Case study of best practices in School management
3. Comparison of school management practices among Govt, Aided and unaided schools
4. Search in the internet and report the problems faced by the teachers and head of the school in the school management.

**Mode of Assessment:**
Written test, task and assignment.

**References:**
3. Sashi Prabha Sharma, Kanishka Publishers & Distributors, New Delhi
4. A New Approach to School Management - Dr. M.S. Sachdeva
5. Administration of Education in India - P.D. Shukla
9. Educational Administration, Supervision and School Management
11. Guidance of Sarva Siksha Abhiyan, M.H.R.D., Govt. of India
12. Modern Approach to School Organisation and Administration - Dr. M.S. Sachdeva
13. School Education and Management - Vijaya Kumari Kaushik, Sharma S.R.
14. School Organisation and Administration - Dr. K.S. Sidhu
15. Secondary School Administration - S.K. Kochhar
16. Teacher Education: Principles, Theories and practices
17. Teachers Role, Status, Service Conditions and Education in India (Doaba House)
Course – 49(vii): Pedagogy of Mathematics I – Part 2

Theory

Credits 4

Essence of the course:
This course is to enable student teachers to specialize in mathematics teaching to develop an understanding of the curriculum and linking school knowledge with community life. The course includes reconstruction of mathematical knowledge through appropriate pedagogic processes and to communicate meaningfully with students.

Objectives:
At the end of the course, the student teacher will be able to
- appreciate the nature, structure, scope of Mathematics and its relation with other disciplines.
- acquire knowledge of the nature and development of Mathematics
- understand the aims and objectives of teaching Mathematics
- prepare unit plan and activities oriented Lesson plans for effective classroom communications.
- prepare the prospective Mathematics teachers as facilitators for effective teaching and learning of Mathematics.
- apply different methods and techniques of teaching of Mathematics and to employ them proficiently in the classroom
- develop the positive attitude among the student in teaching Mathematics
- appreciate the role of Mathematics in day-to-day life
- stimulate curiosity, creativity and inventiveness in Mathematics

COURSE CONTENT

Unit 1: Lesson plan preparation
Lesson planning – Meaning, Purpose, Components and Characteristics - types - needs - aspects of a good lesson plan – different models/approaches for writing lesson plan – Unit Plan, Year Plan.

Unit 2: Models of Teaching Mathematics

Unit 3: Learning Resources and diverse classroom

Unit 4: Professional development of Mathematics teacher
Unit 5: Research in Mathematics teaching
Research in the field of mathematics and mathematics teaching – status of achievement in mathematics at elementary and secondary schools – areas of difficulties – phobia for and attitude toward mathematics learning – factors related to mathematics learning – Action research – implication of research findings

Modes of Transactions:

Practicum: Task and Assignment
1. Collection of articles relevant to recent developments in Mathematics.
2. Prepare a lesson plan for any topic in Mathematics based on Inquiry Training Model or Concept Attainment Model.
3. Preparation of ten frames of Linear or Branching Programmes on any topic in Mathematics.

Learning Activities:
Learning the Content and practicing them appropriately, Oral work, drill, Review and Practising Pedagogical Aspects for different areas of School Curriculum.

Mode of Assessment:

References:
Course – 49(viii): Pedagogy of Physical Science I – Part 2

Theory

Essence of the course:
The student-teachers will revisit basic concepts of physics and chemistry which was given in upper primary and secondary school books. The student-teachers will work with such theoretical studies as well as on the field with school children from different backgrounds, they will capable to critically examine teaching learning processes that incorporate enquiry, discovery, conceptual development, activity based learning, etc. within the classroom.

Objectives:
At the end of the course, the student teacher will be able to
• acquire knowledge of nature, values and modern approaches in physical science teaching.
• understand learning objectives and curriculum approaches in physical science teaching.
• apply acquired knowledge of various methods and technique in teaching physical science.
• develop skill in adopting various approaches of learning in physical science teaching.
• develop interest in participating the practice teaching.
• develop desirable positive attitude towards contribution of eminent scientist for development of physics and chemistry.
• acquire hands-on experience in designing and developing suitable learning aids for classroom instruction.

COURSE CONTENT

Unit 1: Lesson planning
Lesson planning – meaning, need – Factors that need to be considered for organisation of concepts –Elements of a physical science lesson – different models/approaches for writing lesson plan – aspects of a good lesson plan – Unit planning – salient features

Unit 2: Methods and techniques of teaching physical science

Unit 3: Approaches in learning physical science
5E learning model – Collaborative learning approach –Problem solving approach – Concept mapping – Experiential learning –Cognitive conflict – Inquiry approach – Analogy strategy

Unit 4: Basic physics
Matter and Measurement: Measurement, Measuring Instruments
Forces and Movement: Motion, Force and Pressure, Motion and liquids, Laws of Motion and Gravitation

Unit 5: Basics Chemistry
Matter: Separation of Substances, Matter in our Surroundings, Elements, Compounds
Exploring Chemical Changes and Formulation: Changes around us, Matter and Its Nature, Chemical equation, Chemical Reactions
Exploring Chemical Families: Periodic Classification of Elements

Mode of transaction:
Lecture-demonstration method, Project method, Problem-solving method, CAI, Observation method (field visit/exhibition/internship), Seminar/ discussion

Practicum: Task and Assignment
1. Critically analyze different branches of physics and chemistry are available in the school book from class 6 to 10th (Assignment).
2. Study the gender gap in learning science (scholastic record).
3. Observe classroom teaching methods and techniques used by the school teacher (Report).
4. Prepare 2 concept maps physics and chemistry each from the content (concept map)
5. Prepare liner or branching frames for a single concept from physical science (PI)

Mode of Assessment:
Written test, Task and assignment, Laboratory work

References:
9. Central Board of Secondary Education. (2010), Manual for Teachers on School Based Assessment Classes VI to VIII. Delhi.
Course -50: EDN I(C&PS)  
PEDAGOGY OF SCHOOL SUBJECT II  

Course – 50 (i): Pedagogy of Tamil II – Part 2  

தறிசு கல்வியுடன் பலகையில் II - பகுதி 2  

Theory  

அப்பாளையுடையுடைய:  

day school கல்வியுடன் பெண்கள் ஆண்களுக்கு அளிக்கப்படும் நேரமே வருவாத மற்றும் பெண்களுக்கு கல்வியுடன் பெண்கள் ஆண்களுக்கு மற்றும் பெண்களுக்கு கல்வியுடன் பெண்களுக்கு ஆண்களுக்கு மற்றும் பெண்களுக்கு கல்வியுடன் பெண்களுக்கு ஆண்களுக்கு மற்றும் பெண்களுக்கு கல்வியுடன் பெண்களுக்கு ஆண்களுக்கு மற்றும் பெண்களுக்கு கல்வியுடன் பெண்களுக்கு ஆண்களுக்கு மற்றும் பெண்களுக்கு கல்வியுடன் பெண்களுக்கு ஆண்களுக்கு மற்றும் பெண்களுக்கு கல்வியுடன் பெண்களுக்கு ஆண்களுக்கு மற்றும் பெண்களுக்கு கல்வியுடன் பெண்களுக்கு ஆண்களுக்கு மற்றும் பெண்களுக்கு கல்வியுடன் பெண்களுக்கு ஆண்களுக்கு மற்றும் பெண்களுக்கு கல்வியுடன் பெண்களுக்கு ஆண்களுக்கு மற்றும் பெண்களுக்கு கல்வியுடன் பெண்களுக்கு ஆண்களுக்கு மற்றும் பெண்களுக்கு கல்வியுடன் பெண்களுக்கு ஆண்களுக்கு மற்றும் பென் களுக்கு கல்வியுடன் பெண்களுக்கு ஆண்களுக்கு மற்றும் பெண்களுக்கு கல்வியுடன் பெண்களுக்கு ஆண்களு 

நூற்றாண்டுகள்:  

- கல்வியுடன் கல்வியுடன் கல்வியுடன் கல்வியுடன் கல்வியுடன்.  
- அவர்கள் கல்வியுடன் கல்வியுடன் கல்வியுடன் கல்வியுடன்.  
- உலகில் முற்றிலும் கல்வியுடன் கல்வியுடன் கல்வியுடன் கல்வியுடன்.  
- அவர்கள் கல்வியுடன் கல்வியுடன் கல்வியுடன் கல்வியுடன்.  
- கல்வியுடன் கல்வியுடன் கல்வியுடன் கல்வியுடன்.  
- நம்பிக்கை பல்கலைக் கல்வியுடன் கல்வியுடன் கல்வியுடன்.  
- கல்வியை நூற்றாண்டுகளுக்கு பல்கலைக் கல்வியுடன் கல்வியுடன்.  
- கூட்டம் கல்வியை நூற்றாண்டுகளின் கல்வியுடன் கல்வியுடன். 
- கல்வியை நூற்றாண்டுகளின் கல்வியுடன் கல்வியுடன். 

அது 1: கல்வியையுடன் பல்கலைக் கல்வியை  
பல்கலைக் கல்வியை, கல்வியையுடன் கல்வியை உண்டு - பல்கலைக் கல்வியை உண்டு - கூட்டம் கல்வியை உண்டு - பல்கலைக் கல்வியை - கூட்டம் கல்வியை - கூட்டம் கல்வியை - கூட்டம் கல்வியை.  

அது 2: கல்வியையுடன் கல்வியை உண்டு கல்வியை  
கல்வியை - கூட்டம் கல்வியை - கூட்டம் கல்வியை - கூட்டம் கல்வியை. 

அது 3: கல்வியையுடன் கல்வியை உண்டு கல்வியை
அண்ட் 4: பாதுகாப்பு, சுற்றுச்சூழல் பாதுகாப்பு

அண்ட் 5: தொழில் அறிவியல்
Course – 50 (ii): Pedagogy of English II – Part 2

Theory

Essence of the course:
Equipping the student with English knowledge for communication and Literature for appreciation. Developing the skill of communication in order to help children at various school levels towards effective communication. The course focuses on developing the ability of the future teachers to transact language in inclusive classroom.

Objectives:
At the end of the course, the student teacher will be able to
- develop English Language teaching competency.
- understand and appreciate the importance of English.
- have a critical study of learning English as a second language in the multilingual Indian Society.
- understand the role of English in India and to improve English Language attainment.
- produce the different methods, techniques and strategies of ELT.
- Prepare and use appropriate teaching aids to make teaching more effective.
- develop the various micro skills to teach English language.
- acquire the skill of preparing lesson plans to teach English.

CONTENT OUTLINE

Unit 1: Lesson Plan format- Prose
Planning of the lesson –Need, Features and Advantages of lesson plan – different models/approaches for writing lesson plan – Planning a Prose Lesson (Herbertian steps) - aims and objectives of teaching Prose-Identifying and listing language material to be taught (New lexical items and structures).

Unit 2: Lesson plan format-Poem
Concept, aims and objectives of teaching poetry in second language -- Poetic devices-Difference between prose and poetry teaching- Steps of preparing a lesson plan on poetry.

Unit 3: Technology resources for English language teaching
Concept and use of A.V. aids in the teaching of English: Black board and white board, flannel board, bulletin board, flash cards, posters and flip charts, video clips, pictures, photos, puppets, postcards and advertisements, newspapers, brochures, Realia. Over Head Projector (OHP), Radio, T.V., role of computers, Power point presentation, Language laboratory and language games.

Unit 4: Skill of listening
Concept of listening in second language-Listening skills and their sub-skills -Techniques of teaching listening - Role of teaching aids in teaching listening skills - Difference between hearing and listening.

Unit 5: Teaching of receptive skills - skill of reading

Mode of Transaction:

Use of multimedia resources, Library resources, Accessing Online input on the topic, Print versions of texts focusing on communication, Usage of ICT, Introductory lecture, Micro-teaching through video lessons, Lesson Plan preparation, Demonstration, Mind mapping, Small group discussions, Dictionary and Online referencing, Language Lab activities

Practicum: Task and assignment
1. Project on formation of new words
2. Planning of 10 vocabulary building exercises and techniques to teach the students in the classroom.
3. Assignments & Library work
4. Preparation of audio visual aids(PPT, Charts, Models)
5. Listening to radio news and responding to questions.

Mode of Assessment:

Evaluation based on documentation (written) – Address the level of pupil involvement in Group Discussion – Performance evaluation (seminar, project and assignment) – Monitor the ability to distinguish between similar concepts – Use of Checklist to monitor, rate performance in each skill – Monitoring performance of communicative tasks

References:
15. Françoise Grellet, (1986) Developing reading skills, CUB.
Course – 50 (vii): Pedagogy of Physical science II – Part 2

The same syllabus as given in course – 49 (viii)
SEMESTER VII

CORE 21 - COMPLEX ANALYSIS - II

ESSENCE OF THE COURSE:

This Course focuses on many branches of mathematics, including algebraic geometry, number theory, analytic combinatorics, applied mathematics; as well as in physics, including hydrodynamics and thermodynamics and also in engineering fields such as nuclear, aerospace mechanical and electrical engineering.

This Course deals the theory of conformal mappings, has many physical applications and is also used throughout analytic number theory. In modern times, it has become very popular through a new boost from complex dynamics and the pictures of fractals produced by iterating holomorphic functions.

This course provides the knowledge about complex number system and complex functions. On successful completion of this course the students should have gained knowledge about the origin, properties and application of complex numbers, complex functions and complex integration.

OBJECTIVES

At the end of the course the student teachers will be able to

1. acquire the knowledge of Complex Integration.
2. learn about elementary transformation concepts in complex variable.
3. learn complex number system, complex function and complex integration.
4. Know about complex Integral functions with Cauchy’s Theorem, power series expansions of Taylor’s and Laurant’s series.
5. understand cauchys’ theorem.
6. understand the singularity concepts and residues, solving definite integrals using the residue concepts.
7. apply Cauchy integral formula to find the integrals.
8. find the summation of series,
9. prepare on the basic concept in Complex Analysis.
10. improve the skill of finding the value of integrals using Contour integration.

CONTENT OUTLINE


UNIT: 3. Series: Convergence of sequences and series - Taylor series - Observations and
examples - Laurent series - Further properties of series.


UNIT: 5. Contour Integration:
Type 1: \( \int (\sin x, \cos x) \, dx \)
Type 2: \( \int f(x) \, dx \)
Type 3: \( \int p(x)/q(x)(\cos(mx)) \, dx, \int p(x)/q(x)(\sin(mx)) \, dx \)

Unit 1: Chapter 5 (Relevant portions)
Unit 2: Chapter 5 (Relevant portions)
Unit 3: Chapter 6
Unit 4: Chapter 7 (Relevant portions)
Unit 5: Chapter 7 (Relevant portions)

Note: TEN questions are to be set and Three Fifths of the paper carries full marks.

MODE OF TRANSACTION OF COURSE:
Lecture Method, Problem Solving Method, Deduction and Induction Method

PRACTICUM ACTIVITIES: Task and Assignment

Two questions from each unit

MODE OF ASSESSMENT
Written test, Task and Assignment

REFERENCE:
6. P.Duraiapandian and Laksmi Duraiapandian ,Complex Analysis, Emerald Publishers,
Chennai – 2, 1986.
FOURTH YEAR - SEMESTER VII

Course -52: EDN I(PE) CREATING AN INCLUSIVE SCHOOL

Theory

Credits 2

Essence of the course:

This course covers the concept of special schools, mainstreaming and inclusion, national policies, initiatives, programmes and acts for inclusive education, nature and needs of the children having disabilities and their integration.

The objectives of this course is to highlight and reinforce a firm belief in positive and varied outcomes of inclusion. It will help student teachers in identification of factors affecting learning and participation while formulating a policy of good practice and review. This course focus on the understanding of integrating children with special needs with the normal children

Objectives:

At the end of the course, the student teacher will be able to

- acquire knowledge of terms and concepts used in disability and inclusion
- understand integrate education and the importance of inclusive school for disabilities and assessment methods
- apply the policies and practices related to special education and Service programme for the disabled
- develop the skills a dynamic approach of pupil diversity and opportunities for enriching learning among the disability child
- develop interest on support and active participation of all in the field of inclusive education
- develop the attitude towards students to interrogate their own beliefs and also of school teacher from social point of view.

CONTENT OUTLINE

Unit 1: Historical and modern perspectives on Inclusion

Meaning, definition – Characteristics of special education – History of special education - scope of special Education – principles of special Education – teacher's role in special Education– factors affecting inclusion- present situation of special Education in India

Unit 2: Policy and programme for Inclusive Education


Unit 3: Different Learners in Inclusive Education

Types of learning disability; - physical- visual impaired, hearing impaired, Orthopaedic – Mentally impaired – Learning disability – Dyslexia, Dyscalculia, Dysgraphia – Attention deficit hyperactive disorder (ADHD ) – Autism – cerebral palsy
Unit 4: Identification and Inclusion


Unit 5: Mainstreaming and integrated Education

Meaning – characteristics of integrated education - Equality and quality of integrated education – sustainable practice - create positive and innovative outcome - Safeguarding the needs of pupils with special educational needs - Assessment methods for inclusive school – Norm reference tests (NRT) and Criterion reference tests (CRT) – Behavioural and Clinical assessment – continuous and comprehensive assessment.

Mode of transaction:
Lecture, Discussion, Assignment, Visit special school, Film show

Practicum: Task and Assignment

1. Make a survey and write a report based on disability learner’s status in your nearby schools
2. Study the attitude of parents and teachers as inclusive
3. Visit to inclusive school to observe classroom interaction of anyone such schools in your area.
4. Case study of one/two people with special needs in secondary
5. Preparation of teaching aids for children having any one type of disability

Mode of Assessment:
Oral test, Case study, Special school Report, Written test, Task and assignment

References:


Course – 53: EDN I(C&PS)  ASSESSMENT FOR LEARNING – I

Theory  Credits 4

Essence of the course:
The course is designed keeping in mind the role of assessment in enhancing learning. It will focus on various tools and techniques of evaluation. There will also be focus on continuous and comprehensive evaluation. The course will also deal with critical understanding of issues in assessment and also explore realistic, comprehensive and dynamic assessment process. The course will also give emphasis on the need for formative and summative evaluation as well as quantitative and qualitative assessment for learning.

Objectives:
At the end of the course, the student teacher will be able to
• acquire basic concepts in assessment and evaluation.
• develop the awareness about different areas of assessment.
• discriminate different perspectives in assessment.
• develop understanding about the meaning and the process of CCE
• know different techniques of evaluation, tools of evaluation and their uses.
• know different characteristics of instruments of evaluation.
• discriminate teacher made test vs standardized tests in assessment
• prepare, administer and interpret of results of tests and different evaluation techniques
• compute simple statistics to assess the learning.
• develop awareness about use of technology in assessment and evaluation.

COURSE CONTENT

Unit 1: Basics of Educational Testing, Measurement, Assessment and Evaluation

Unit 2: Different domains/ areas of learning
Educational objectives in different domains – cognitive, affective and psychomotor – Learning outcomes as behavioural changes – Relationship between educational objectives, learning experiences and evaluation – writing educational objectives-different kinds like knowledge, understanding, application, skill, affect attributes, behavioural terms and level of performance – Measurable and non-measurable learning outcomes.

Unit 3: Traditional and constructivist assessment
Traditional assessment – constructivist assessment– difference – traditional and constructivist teacher – Purposes of assessment in a 'constructivist' paradigm: to engage with learners' minds in order to further learning in various dimensions – Assessment for learning and assessment of learning; relative merits and demerits – Assessment of different types of content – Achievement, Performance, Values, Attitude and Aptitude. – Assessment for different purposes – Placement, Diagnosis and Grading
Unit 4: Continuous and Comprehensive Evaluation
Aim, objective and characteristics of CCE – Continuous and Comprehensive Evaluation (CCE)—Scholastic area— Co-Scholastic area— functions of continuous and comprehensive evaluation— Recording and reporting: measurement of students’ achievements, grading system and type — importance of progress report — Feedback as an essential component of assessment

Unit 5: Major tools of Evaluation and their uses
Paper pencil tests, Oral tests, and Performance tests — Achievement tests: standardized and teacher made tests — Diagnostic tests — Intelligence tests and aptitude tests — Rating scale — Check list — Anecdotal records — Socio-metric technique — Interview, Questionnaire and Inventory — Use of test data: placement, promotion, grouping, diagnosis and remediation. — Self reporting techniques/Reflection as assessment technique for learning. — Interview and focus group discussion

Mode of Transaction:
Lecture cum discussion, Seminar, Team Teaching, Practical work, Power point presentation

Practicum: Task and Assignment
1. Preparation, administration and interpretation of results of tests and different evaluation techniques
2. Writing educational objectives, learning experience and corresponding evaluation techniques, General and specific objectives
3. Framing measurable and non-measurable learning outcomes
4. Finding out the content validity of the given question paper
5. Designing Rating scale, Questionnaire, Interview Schedule in a given a topic
6. Framing Different types of questions
7. Preparation of Blue Print and a question paper
8. Prepare graphs and use statistics for analysis of test result
9. Preparation of interaction analysis report after the observation of any five teachers and peer teachers working in schools

Mode of Assessment:
Submission of Assignments, Preparation of tests various types of test items, Data collection and statistical analysis, Participation in Group discussion

References:
1. Assessment for Learning and Teaching in Primary Schools by Mary Briggs, Angela Woodfield, Peter Swatton


http://www.lscotland.org.uk/assess


Course – 54: EDN I(PE) SCHOOL MANAGEMENT – II

Theory

Essence of the course:
The focus of the course is on the essentials of school management and the challenges therein. This course is designed to throw light on the concepts of management related to School. The purpose is to foster proper understanding of these essential concepts and to create necessary managerial skills and capabilities among student teachers so as to enable them efficiently manage schools.

Objectives:
At the end of the course, the student teacher will be able to

- Understand the basic concepts of school management.
- Understand different components of school management
- Realize the multifaceted role of teacher/head teacher.
- Sensitize the student teachers about the concept of child rights in the process of School Management.
- Explain the factors contributing to the success of supervision and to acquaint with the modern trends in Supervision and Inspection.
- Discuss the present examination system and suggest some innovations.

CONTENT OUTLINE

Unit 1: Community & School

Unit 2: Child Rights and School Management

Unit 3: Co-Curricular Activities
Meaning, Importance of Co-curricular activities - Organisation of Co-curricular activities: School Assembly, Debates, Discussions, Seminars, Symposia, Cultural Activities, Scouts & Guides, National Green Corps, Physical Education Activities

Unit 4: Inspection and Supervision
Need and Importance of Supervision and Inspection - Meaning, Aims & Scope of Inspection and Supervision - New Trends in Supervision and Inspection - Principles of Good Supervision - Qualities and duties of effective supervisor.

Unit 5: Latest Trends & Innovations in School Management
School Complex - Village Education Committees - School based in-service programme - centrally sponsored Schemes, Sarva Siksha Abhiyan [SSA], RMSA- Use of Computers in School Management - Action Research in School Management: Concept, Importance, Steps
Mode of Transaction:
Lecture, Discussion, Project work, Field visits, Assignment, Seminar, Workshop, etc

Practicum: Task and Assignment
1. Analysis of working of PTA/School Education Committees/ School-Community Interactions
2. Observe and record the leadership styles of any five heads of the school and present them to the class for reflection.
3. Prepare a programme for parent’s meetings in a school.
4. Assume you are the head of the school; how will you manage the human resource of your school. Report it in your class and record the reflections.
5. If you want to become a creative headmaster rather than to be a status qua head master. Record an expected positive and negative problems

Mode of Assessment:
Written test, task and assignment.

References:
4. A New Approach to School Management - Dr. M.S. Sachdeva
5. Administration of Education in India - P.D. Shukla
9. Educational Administration, Supervision and School Management
11. Guidance of Sarva Siksha Abhiyan, M.H.R.D., Govt. of India
12. Modern Approach to School Organisation and Administration - Dr. M.S. Sachdeva
13. School Education and Management - Vijaya Kumari Kaushik, Sharma S.R.
14. School Organisation and Administration - Dr. K.S. Sidhu
15. Secondary School Administration - S.K. Kochhar
16. Teacher Education: Principles, Theories and practices
17. Teachers Role, Status, Service Conditions and Education in India (Doaba House)

Credit: 4

Essence of the course:
This course is to enable students to specialize in Mathematics and to develop an understanding of the curriculum, linking school knowledge with community life. The course includes reconstruction of Mathematical Knowledge through appropriate pedagogic processes and to communicate meaningfully with children.

Objectives:
At the end of the course, the student teacher will be able to
- acquire the knowledge of competence in teaching Mathematics
- develop clear perception of the Secondary School Mathematics.
- develop awareness of recent trends and principles of construction of Mathematics curriculum.
- know the importance of computers in teaching and learning of Mathematics
- understand the various psychological aspects involved in teaching Mathematics
- know the importance of aesthetic and recreational Mathematics
- develop an understanding of resources of teaching and learning Mathematics.
- help the student teacher for the professional self-development
- enable the student teachers to identify gifted and slow learners in Mathematics and to meet the requirements.
- stimulate to pose and solve meaningful problems and creativity in Mathematics.
- develop insight into individual differences in learning Mathematics to cater to the needs and requirements of students.
- develop skills in construction of appropriate assessment tools for evaluating Mathematics learning

COURSE CONTENT

Unit 1: Revisiting of Content in Mathematics

Unit 2: Mathematics Curriculum

Unit 3: Planning and Designing Instruction in Mathematics
Planning Instruction- Need and Importance - Decision Making as the Basis for Planning - Concept of Pedagogic Content Knowledge (PCK) and Components of PCK - Pedagogic Content Knowledge Analysis for selected units in Mathematics at the secondary level in terms of Content, Pre-requisites, Instructional Objectives- Selecting suitable Teaching
Methods and Strategies, Techniques, Models, Learning Activities, Selecting suitable
evaluation techniques, Identifying the misconceptions and appropriate remedial measures.

Unit 4: Learning Resources in Mathematics
Mathematics Text Book – Mathematics Library – Mathematics Club and Mathematics
Exhibition
Preparation of teaching Aids - Audio-visual Aids and Multimedia Selection and Teaching in
Mathematics - Computer applications in Teaching and Learning Mathematics-Uses of ICT in
Teaching-learning process.

Unit 5: Psychological foundations of Mathematics Education
Jean Piaget’s Cognitive theory, Bruner’s Discovery learning, Gagne’s eight types of learning
and Constructivism - Critical Analysis of Mathematics Curriculum at the secondary level
(state board) based on principles and organization of Mathematics curriculum and NCF 2005.

Modes of Transactions:
Lecturing on Theoretical Concepts, Logical Reasoning of Mathematical problems, Analytic
and Synthetic Methods of Teaching, Project Method, Tasks and Assignments, seminars.

Learning Activities:
Learning the Content and practicing them appropriately, Oral work, drill, Review and
Practicing Pedagogical Aspects for different areas of School Curriculum.

Practicum: Task and Assignment
1. Critically analyze the Mathematics Curriculum at the Secondary Level and prepare a report.
2. Prepare any two improvised teaching aids.
3. prepare the stick album based on the mathematical shapes
4. Search and collect the scrap for Mathematics
5. Prepare a power-point presentation on Mathematical Concepts, Principles and Properties.

Mode of Assessment:
Paper-Pencil Tests, Performance tests, Formal and Informal Testing and Continuous
Comprehensive Evaluation.

References:
Delhi: Discovery Publishing House Pvt. Ltd.
10. Michael A. Lorber and Walter D. Pierce (1990) Objectives, Methods and Evaluation for
Course -55(viii): Pedagogy of Physical Science I – Part 3

Credit: 4

Essence of the course:
After having learning this Course, student teachers understand the nature of physical science teacher, the learner, resource material including ICT for teaching physical science and evaluation process. This course comprise, pedagogical approaches for organizing science related activities; and assessment of the learner.

The student-teachers will work with theoretical studies as well as on the field with school children from various backgrounds. They will capable to critically teach the science in their internship school and examine teaching learning processes also developing of self.

Objectives:
At the end of the course, the student teacher will be able to
- acquire knowledge about the term and concepts used in teaching physical science.
- understand nature of the learner and classroom situation.
- apply the knowledge in constructing test and developing ICT resource in teaching physical science.
- enhance skill in organizing and maintaining of physical science laboratory.
- create interest in organizing science related activities.
- develop a desirable positive attitude towards science teaching.

COURSE CONTENT

Unit 1: Pedagogical shift in Physical Science:
Pedagogical shift from science as fixed body of knowledge to the process of constructing knowledge – Critical pedagogy, democratising science learning and role of teachers – Pedagogical shift: planning teaching learning experiences.

Unit 2: Exploring Learners
Uniqueness in learner – Motivating learners to bring their previous knowledge into Classroom – Involving Learners in teaching-learning Process – Encouraging learners to raise and ask questions, collect materials from local resources.

Unit 3: Curriculum in Physical Science
Meaning – curriculum and syllabus – Principles and approaches of curriculum construction – selection of content –Recommendations of various commission since Kothari commission to NCF on science curriculum–Physical science syllabi and textbooks at upper primary, secondary stage.

Unit 4: ICT Resources in Learning Physical Science
Unit 5: Organizing Science Related Activities
Science libraries, science Museum, science club, science hobbies, field trips/excursions, science Fairs/exhibitions, Science corner.

Mode of transaction:
Lecture-demonstration method, Project method, Problem-solving method, CAI, Observation method (field visit/exhibition/internship), Seminar/discussion

Practicum: Task and Assignment
1. During internship, analyze and record learning abilities of pupils and their activities in class situation (observation).
2. Study any one of 6th to 8th or 9th to 10th the science curriculum used in India (Report)
3. Surf the Internet for searching information for various concepts of physical sciences for primary/secondary/higher secondary stages. Review them and make a list of relevant websites that you would recommend to your students. Share and discuss about the websites with your friends and teacher (Discussion)
4. Write self-study report based on your visit to science exhibition or science centre (Visit).
5. Evaluate any 2 school science text book (Rating)

Mode of Assessment:
Written test, Task and assignment, Laboratory work, Observation

References:
9. Central Board of Secondary Education. (2010), Manual for Teachers on School Based Assessment Classes VI to VIII. Delhi.
Course -56: EDN I(C&P)
PEDAGOGY OF SCHOOL SUBJECT II

Course -56(i): Pedagogy of Tamil II – Part 3

Theory

அம்பாண்ட கல்வியில்

துறையில் பராமரிக்க அனுமதிக்கப் பட்டியலில் பயிலும் அறிவியல் மாணவர்கள் கிளாந்துகொள்ள அதிகமான கல்வியில் அம்பாண்ட கல்வியில் பயிலும் மாணவர்கள் கிளாந்துகொள்ள அனுமதிக்கப் பட்டியலில் பயிலும் மாணவர்கள் கிளாந்துகொள்ள அனுமதிக்கப் பட்டியலில் பயிலும் மாணவர்கள் கிளாந்துகொள்ள அனுமதிக்கப் பட்டியலில் பயிலும் மாணவர்கள் கிளாந்துகொள்ள அனுமதிக்கப் பட்டியலில் பயிலும் மாணவர்கள் கிளாந்துகொள்ள அனுமதிக்கப் பட்டியலில் பயிலும் மாணவர்கள் கிளாந்துகொள்ள அனுமதிக்கப்பட்டியலில் பயிலும் மாணவர்கள் கிளாந்துகொள்ள அனுமதிக்கப்பட்டியலில் பயிலும் மாணவர் கிளாந்துகொள்ள அனுமதிக்கப் பட்டியலில் பயிலும் மாணவர் கிளாந்துகொள்ள அனுமதிக்கப் பட்டியலில் பயிலும் மாணவர் கிளாந்துகொள்ள அனுமதிக்கப் பட்டியலில் பயிலும் மாணவர் கிளாந்துகொள்ள அனுமதிக்கப் பட்டியலில் பயிலும் மாணவர் கிளாந்துகொள்ள அனுமதிக்கப் பட்டியலில் பயிலும் மாணவர் கிளாந்துகொள்ள அனுமதிக்கப் பட்டியலில் பயிலும் மாணவர் கிளாந்துகொள்ள அனுமதி...
அம்மம் - நூற்றோர் தமிழ்மொழியில் அம்மம் - காவற்றுரை - பெட்ரோல் தொழில்நுட்பம்

மாணவுரை

1. விளக்கு முறை
2. பல்லகமியல் வலம்
3. பல்லகமியல் வலம்
4. பல்லகமியல் வலம்
5. பல்லகமியல் வலம்

பயன்பாடு நுட்பத்துறை

1. காவற்றுரை, பெட்ரோல் தொழில்நுட்பம், பி.ல. 2008. நீராந்தில் குறிப்பிட்டுபவர், குறிப்பிட்டுபவர், குறிப்பிட்டுபவர், குறிப்பிட்டுபவர்.
2. காவற்றுரை, (1993) பெட்ரோல் தொழில்நுட்பம், பெட்ரோல் தொழில்நுட்பம், குறிப்பிட்டுபவர்.
4. காவற்றுரை, பி.ல. (1999) பெட்ரோல் தொழில்நுட்பம், பெட்ரோல் தொழில்நுட்பம், பெட்ரோல் தொழில்நுட்பம், குறிப்பிட்டுபவர்.
5. காவற்றுரை, பி.ல. 2002. காவற்றுரை, பெட்ரோல் தொழில்நுட்பம், குறிப்பிட்டுபவர்.
Course -56(ii): Pedagogy of English II – Part 3

Theory

Essence of the course:
Equipping the student teacher with English knowledge for communication and appreciation. Developing the skill of communication in order to help children at various school levels towards effective communication. The course focuses on developing the ability of the future Teachers to transact language in inclusive classroom.

Objectives:
At the end of the course, the student teacher will be able to
- enable the student teachers to
- develop English Language teaching competency.
- understand and appreciate the importance of English.
- have a critical study of learning English as a second language in the multilingual Indian Society.
- understand the role of English in India and to improve English Language attainment.
- produce the different methods, techniques and strategies of ELT.
- Prepare and use appropriate teaching aids to make teaching more effective.
- develop the various micro skills to teach English language.
- acquire the skill of preparing lesson plans to teach English.

CONTENT OUTLINE

Unit 1: Lesson plan format grammar
Planning for teaching Grammar and usage -Steps of preparing a lesson plan for grammar. - Types of grammar (Formal and Functional) - Methods of teaching grammar (Inductive and Deductive)

Unit 2: Lesson plan format - composition
Planning for teaching composition- Kinds of composition (Guided, Controlled and Free)- Steps of preparing a lesson plan for teaching composition-Correction of a composition work.

Unit 3: Approaches to teaching English language
Structural approach- Situational approach- Communicative approach- Eclectic approach-constructive approach- S-O-S approach.

Unit 4: Teaching pronunciation
Teaching Pronunciation and Spoken English. Standard Indian Pronunciation with reference to GIE/RP. - English sound system – Vowels, Consonants - Minimal contrasts – consonant clusters- Focusing on difficult sounds – comparison with sounds of Indian languages. Syllabification – stress, intonation, rhythm.

Unit 5: Teaching of vocabulary
Essentials of teaching vocabulary-Types of vocabulary – Active and passive; Content words and structural words- Selection and gradation of vocabulary -Teaching meaning of words - Expansion of vocabulary.
Mode of Transaction:
Demonstration of teaching specific grammar items, Seminar on different expressions, Comparative study of various forms of compositions, Demonstration of steps followed in different methods, Introductory lecture, Observation of video clips, Through Situational presentations, Usage of Language games, Presentation of good models by native speakers, Through language lab, Framing, evaluating and interpreting a question paper.

Practicum: Task and Assignment
1. Projects on methods of teaching grammar
2. Language games on grammatical structure
3. Activities & competitions for Creative writing,
4. Practicing Formal and Informal Letter
5. Perform any one of the activities for developing the language skill: Quiz, Debate, Dialogue, Role play, Brain storming

Mode of assessment:
Analysis of Group discussion, Participant Observation, Monitoring performance of communicative tasks, Evaluation based on documentation (written), Performance evaluation (Seminar, Assignment & Project)

References:
15. Françoise Grellet. (1986) Developing reading skills, CUB.
Course-56 (vii): Pedagogy of Physical Science II – Part 3

The same syllabus as given for course – 55(viii)
Course -57: EDN(OPT) OPTIONAL

Course -57(i): Special Education

Credits 2

Essence of the course:
This course is meant to enable the teacher to have Knowledge on the History of Special Education and cater to the needs of challenged children. Even though there are medical advancements, there exist births with physical, mental and other differential challenges. In order to cater those challenged children, the present course has been designed.

Objectives:
At the end of the course, the student teacher will be able to
- acquire knowledge about different perspectives of children with disabilities;
- understand the social needs of children with sensory and intellectual impairments;
- reformulate attitudes towards children with special needs;
- identify needs of children with diversities;
- plan need-based programmes for all children with varied abilities in the classroom;
- use specific strategies involving skills in teaching special children.
- modify appropriate learner-friendly evaluation procedures;
- incorporate innovative practices to children with special needs;

COURSE CONTENT

Unit 1: Paradigms in education of children with special needs
Historical perspectives - Pre-Independence, Post-Independence and contemporary trends;
Models of teaching: The charity model, the bio centric model, the functional model and the human rights model; Concept of special education, integrated education and Inclusive Education. Education in National Policy on Disability (2006); Rehabilitation Council of India (RCI); District Rehabilitation Centers (DRC) Scheme; District Disability Rehabilitation Centers (DDRC) Scheme.

Unit 2: Identification of children with special needs
Exceptional Children; Need for Early Identification; Understanding various disabilities – concepts, characteristics, classification and identification of children with diversities: Visual Impairment; Auditory Impairment; Speech Impairment; Orthopedic; Specific Learning Disabilities; Attention Deficit Disorder; Autism; Juvenile Delinquency.

Unit 3: Curriculum adjustment and adaptation
Curriculum to special needs arising out of various disabilities: Visual Impairment, Auditory Impairment, Speech Disorder, Learning Disability, Attention Deficit Disorder, Autism, Juvenile Delinquency.

Unit 4: Classroom approaches and management
Pedagogical strategies to respond to individual needs of students: Adapting Teaching strategies, Emphatic Approach; Cooperative learning strategies in the classroom, peer tutoring, social learning, buddy system, reflective teaching and multisensory teaching.
Unit 5: Special aids, equipment’s and evaluation procedures
Supportive services required for meeting special needs in the classroom: special teacher, speech therapist, physiotherapist, occupational therapist, and counselor. Technological advancement and its application – ICT, adaptive and assistive devices, equipment and other technologies for different disabilities. Involving community resources as source of support to teachers. Formative and Summative Evaluation.

Modes of Transaction:
Assignment, Project, Seminar, Lecture, Lecture-cum-demonstration, Camps to Special Schools.

Learning Activities:
Observation of Special Schools, Identification of children with special needs, Use of teaching methods to learning disabilities, handling of children with learning and perceptual problems,

Practicum: Task and Assignment
1. Conduct a Seminar on Historical Perspectives on Special Education.
3. Visit to a special school and prepare a report.

Mode of Assessment

References:
Course -57(ii): Population Education

Theory

Credits 2

Essence of the course:
Pupil teacher after learning this course will understand the causes and effect of population explosion which hampers the development of nation. The main focus of this course is to help them to understand the various ways of introducing population education that reduce population in near future. This would maintain population equilibrium and improve the standard of living and quality of life. The pupil teacher will work in the society to create awareness on the consequences of population explosion.

Objectives:
At the end of the course, the student teacher will be able to
- understand the meaning, scope, and importance of population education.
- understand the factors and the impact of standard of life.
- understand the need for curriculum development in population education.
- acquaint needs and means of population control
- understand the role of different agencies in the population education
- appreciate the teaching of population education.
- study the policy and programmes on population education

CONTENT OUTLINE

Unit 1: Nature of Population Education
Meaning and definition-objects- scope, need and importance of population education-
Purpose of population education as integral part of education.—Demographic situation of
world, India, states and UT: Population scenario of the world- population scenario of India,
state / UTs – causes, effects of population growth – Malthus theory– basic components of
population dynamics, (population distribution), Population structure, fertility, mortality,
migration, nuptiality, sex ratio at birth, expectancy of life.

Unit 2: Standard of living and the quality of life
Food and nutrition- health and hygiene- sanitation, housing, clothing- leisure, employment,
social, cultural and spiritual enlightenment- ethics and aesthetics -physical quality of life
index- impact of development of family life on society, culture and personality.

Unit 3: Planning for Population control
India’s population policy- population control: role of society, public opinion – family
planning, family welfare programs in India-responsibility of family and individual: a small
family unit for healthier, happier and better homes. – Population Equilibrium: Measures of
control - Clinical and educational approach.

Unit 4: Curriculum development of population education:
Historical background- Introduction of population education at various levels: school,
colleges, teacher education institution- need of curriculum development in population
education-problems in curriculum development-Need of research in population education–
Role of different agencies and organizations: home, school, community, government- role of
mass media-different strategies of teaching population education.
Unit 5: Teacher of population education

Essentials qualities- activities: educational, social and cultural-techniques: extension lectures, debates, survey, games, exhibitions, dramas, meeting with parents- preparation of teaching aids.

Mode of transaction:
Lecture method, Project method, e-learning, Team teaching, Assignments, Field visits, Rally, Paper / poster presentation, Seminar/ discussion, Quiz & debate

Practicum: Task and Assignment
1. Search in the internet regarding the current population scenario in the world with special reference to a country. Present the report to your class reflection.
2. Search in the internet how the problem of population growth can be converted as human resources for nation development prepare a report with photos and news.
3. Conduct a survey regarding the number of children preference by the people in below 30 years.
4. Conduct an opinion study on the population control among 50 people in a village or locality.
5. Design an awareness programme on population education to school student revise it after reflective discussion in your class.

Mode of assessment;
Written test, Oral test, Task and assignment

References:
Course -57(iii):  Guidance and Counselling

Essence of the course:
Guidance is a general term which means helping people to make wise choices and solve their educational, vocational and personal problems. This course intended to develop skill among student teacher to understand the learner and provide educational, vocational and personal guidance to lead their life in a profitable way. The techniques and methods of imparting such guidance indirectly help the student teacher to handle and offer suitable guidelines to the needy.

Objectives:
At the end of the course, the student teacher will be able to
- recall the principles underlying guidance
- recognize the need of guidance and counselling in schools
- describe the different services in the school guidance programme
- acquire the skills necessary to administer and interpret standardized tools
- know the qualities required for a good counsellor
- acquire the qualities of a counsellor

COURSE CONTENT

Unit 1: Nature and scope of guidance

Unit 2: Educational guidance and counselling
The aims and purpose of Educational Guidance – Factors Contributing to Educational Problems: Self, Home, School, Neighbourhood, Community – Educational guidance programme: Guidance need at Primary, Secondary, College Level, problems of present day scenario and its remedies – Complementary Roles of the Teacher as a Counsellor and Professional Counsellor – Promoting Parental Collaboration in Educational Guidance.

Unit 3: Managing the guidance service

Unit 4: Vocational guidance and counselling
The Nature of Vocational Guidance – The Need for Vocational Guidance – Methods of importing Vocational guidance
Unit 5: Testing devices in guidance


Mode of Transaction:
Lecture method, Discussion Assignment Method, Report writing, Field visit, Presentation by students, Case study

Practicum: Task and Assignment
1. Apply any psychological test and interpret the score and write report
2. Identify the children with counselling needs and write the report
3. Conduct any case study and prepare a report
4. With help surfing internet, write a report on importance of educational guidance and counselling

Mode of Assessment:

References:
Delhi: Doabai House.
Course -57(iv): Environmental Education

Theory

Credits 2

Essence of the course:
Understanding and coping with the nature is the essential need for human beings. Keeping this in mind, this paper tries to develop interest among the student teachers about the environment which would help them to find the solution for environmental problems. It also intends to develop a growing concern about the environment and its related issues.

Objectives:
At the end of the course, the student teacher will be able to

- understand the concept of environment, ecology and the problems concerning environment.
- visualize the importance of environmental education
- develop the skill of planning and organizing ecological activities in the school.
- apply different techniques and materials for the effective dissemination of environmental information.
- sensitize towards conservation of natural resources.
- enable the students to practice environmental friendly life style.
- develop positive attitude towards protecting the environment.
- organise field trips, survey, environmental games and hobbies locally.

COURSE CONTENT

Unit 1: Nature and scope of environment and environmental education
Environment: Meaning, components – Environmental Education – Meaning, Scope, importance, objectives of environmental education. – Environmental education at Primary, Secondary and higher Secondary level.

Unit 2: Ecosystem and biodiversity

Unit 3: Natural resources and conservation movement
Natural resources: forest, wild-life, water, soil – CHIPKO movement, silent valley project, Navdanya Movement, Narmada Bachao Andolan – Social forestry scheme – Environmental ethics

Unit 4: Environmental Problems

Unit 5: Solutions to environmental problem

Mode of Transaction
Lecture, Discussion, Observation, Debate, Field visit, Project, poster presentation
Practicum: Task and Assignment

1. Preparation of a scrap book based on environmental issues from collection of articles and daily newspaper.
2. Prepare a list of Eco friendly, bio-degradable products and write its advantages.
3. Write a report on any one of the concept of ecosystem, greenhouse effect, global warming, depletion of ozone layer, Acid rain, and acts related to conservation of environment.
4. Write a report on environmental issues and role of any agencies in protecting that issues.
5. Arrange a programme for environmental awareness and write a reflective report.

Mode of Assessment
Written test, Task and Assignment.

References:

Web resources:
1. www.ehow.com/list_6506519_list-environmental-protocols.html
2. www.unpeacemaker.org/international-environmental-law.html
5. www.controllingpollution.com/need-for-environmental-education/
6. www.nrdc.org/globalwarming/
7. www.worldviewofglobalwarming.org/
Course -57(v): Human Resource Development

Theory

Credits 2

Essence of the course:
India with young human resource can emerge an advance country in all aspects if human resource is developed to the needs of the 21st century. This course can enable student teacher to be a responsible human resource developer.

Objectives:
At the end of the course, the student teacher will be able to
- understand Human Resource Management Policy and prepare blue print in local context.
- organize the appraisal programme for training and development.
- generate a Human Resource Management climate.
- grasp the significance of psychological strategies of Human Resource Development.
- formulate Human Resource planning.
- enjoy the societal culture and innovate quality of working life.
- conduct researches in Human Resource Development.
- nurture the creativity, interpersonal relationship and other temperamental qualities.
- search for renewed degree of professionalism of Human Resource

CONTENT OUTLINE

Unit 1: Human Resource Management

Unit 2: HRD Organisation

Unit 3: Planning and process

Unit 4: Research in HRD
HRD in Research and Development Organizations – Developmental Needs in Research and Developmental (Creativity, Attitudes, Communication, Interpersonal Relationship, Team Building, Leadership, Motivation) – Action Research in HRD
Unit 5: Social context and models of HRD

Unorganized Sector – HRD for Women: An opinion study – HRD in small scale sector –
HRD and functional literacy – HRD: for Social change. – Various Models of HRD –
Behavioural Model in HRD

Mode of Transaction

Lecture, Discussion, Observation, Debate, Field visit, Project, poster presentation

Practicum: Task and Assignment

1. Search in the internet regarding Human resources Development programme in various
countries and prepare a report.
2. Imagine you are the human resource development organizer, how can you organize the
programme in your school.
3. Prepare a HRD programme for women in a local village based on your survey.
4. Analyze the Human resource planning in India with other countries.
5. Visit any training center and evaluate the programme from Human resource development
point of view.

Mode of Assessment

Written test, Task and Assignment.

References:

1. Human Resource Management; Laxmi Devi; Anmol Publications Pvt. Ltd., Institute for
2. Designing and Managing Human Resource Systems; UDAI PAREEK and T.Venkateswara
5. T.V. Rao, Performance appraisal: Theory and Practice, New Delhi, AIMA Vikas Series,
1984.
Course -57(vi): Value Education

Theory

Credits 2

Essence of the course:
The civilized society all over the world follow well accepted value system. Inculcating values is the prime aim of education. The holistic education is possible only through values education. This course can enable a student teacher to be role model for their students on value inculcation.

Objectives:
At the end of the course, the student teacher will be able to

- expose the student teachers to the concept of value and its meaning.
- make them understand the value crises in the society and the need to teach values in the school.
- present to them the essential values of a good teacher and enable them to practice these values in the class room situation and in social life.
- equip them with the adequate knowledge to teach values to the students.

CONTENT OUTLINE

Unit 1: The value education and need
Meaning of value, value education -- Kinds of values Subjective and objective, intrinsic and instrumental, vertical and horizontal, personal and neighbourly Social, moral and spiritual values – Need for Value Education in schools.

Unit 2: Teacher and Value
Essential values of a good teacher – Application of class room values in the teaching learning process. Role of the teacher in creating a value – role of education and teacher in preserving and transmitting value.

Unit 3: Value classification
Nature of value, higher and lower values, permanent values and temporary values, intrinsic and instrumental values, Indian Philosophy, realms of value, religious and social values based on philosophical system, ethical values, organic values, recreational values, economic values, political values, personal values, intellectual values, spiritual values.

Unit 4: Value Crisis in the Society and Educational Response
Value crisis in the modern society Progression of technology, liberalization, privatization, globalization and retrogression of values. Curricular and co-curricular activities to inculcate values in the students – Social Justice, Secularism, Social cohesion and national unity

Unit 5: Inculcating values
Theories of value development – Piaget, Kohlberg, knowing and doing in value education, thinking and feeling in value education, – Need to teach values in the schools: school programmes – process of value development. – teaching strategies for value education, provision for moral instruction in school
Mode of Transaction
Lecture, Discussion, Observation, Debate, Field visit, Project, poster presentation

Practicum: Task and Assignment
1. Search in the internet and report the value education in various countries.
2. Based on your reflection, how you can inculcate value among your students – write your best practices.
3. How can you manage value degradation among the students? Write an incident based on your experience.
4. If you are the head of the school, how will you inculcate value among the student?
5. Prepare a picture album to use it for value inculcation.
6. Survey status of value development among high school student by administering a value inventory.

Mode of Assessment
Written test, Task and Assignment.

References:
1. Education in values – A source book – a publication of NCERT.
3. Values through communication – evaluation techniques – Pia Nazareth M.
4. Personal Values – Pia Nazareth M with Maria E Waples.
5. Community Values – Pia Nazareth M with Maria E Waples.
Course -57(vii): Non-Formal Education

Theory

Essence of the course:

Education is the life long process. Education can be ensured through formal, informal and non-formal modes. This is an era where in education is offered through multiple modes, mutually complementing and supplementing throughout life.

Objectives:

- This course on non-formal education intends to develop understanding on non-formal mode of learning.
- To develop understanding about need for non-formal education.
- To develop awareness about nature of curriculum, methods of assessment and evaluation with respect to non-formal education.
- To provide a basic understanding on education.
- To appraise the fundamental role of education for the development of nation.
- To enable the student-teachers to be effective members of community.
- To acquaint with contemporary political and social environment.

CONTENT OUTLINE

Unit 1: Non-formal Education

Aims, Concept and scope of non-formal education – Academic, Economic and social objectives of non-formal education. Need for non-formal education in India – Non formal education for different age groups.

Unit 2: Literacy development through Non-formal education

Non-formal education for women, Workers education – Literacy development – Functional literacy – determines of literacy, Role of non-formal education in national development, De-schooling movement. – Continuing education and Distance education.

Unit 3: Curriculum development in non-formal education

Curriculum and syllabus, Aims of curriculum – features of good curriculum, Curriculum content as per age groups, Process to formulate curriculum, Approaches in the preparation of curriculum, Evaluation of curriculum.

Unit 4: Methods of learning in Non-formal education


Unit 5: Non-formal education instructors

Place of teachers and learning in non-formal education, Training instructors for non-formal education, Non-professional teachers as instructors for non-formal education. – Involvement of youths – Role of Voluntary agencies – Research in NFE.
Mode of Transaction

Lecture, Discussion, Observation, Debate, Field visit, Project, poster presentation

Practicum: Task and Assignment
1. Write a report on different types of non-formal education programme offered in your state.
2. Write a report on the role and function of National open School.
3. Write a report on literacy / continuing education programmes offered in any district/state of your choice.
4. Critical report on differences between curricula offered in formal and non-formal set up.
5. Write a report based on a short literacy programme organized by the student teacher in her/his locality.
6. Conduct a survey in a village, to know the present day knowledge requirement of the people.
7. Interview any 10 senior citizen on their requirement for lifelong learning – write a reflective report.

Mode of Assessment

Written test, Task and Assignment.

References:
2. NCERT : Teacher and Education in the emerging Indian Society
3. NCERT : School education in India-Present status and future needs.
Course -57(viii): Disaster Management

Theory

Credits 2

Essence of the course:
Student teacher after learning this course will know the types of disasters. They can
understand the causes and effect of disasters that threatens the human life and hampers the
development of nation. The main focus of this course is to help them to take part in disaster
management training programmes. The pupil teacher will work in the society to create awareness on
common signs and symptoms of natural calamities.

Objectives:
- To know various types of disasters
- To train on disaster preparedness
- To take part in Disaster-Management exercise like search, rescue and relief
- To know Disaster Management Law to ensure coordination between the centre and state
- To understand the details of Disaster Management institutions
- To cope-up with all natural disasters and prevent from loss to human lives and property
- To create awareness about common signs of disasters and symptoms of natural calamity
  related stress.
- To identify the various functions of Disaster Management operations
- To identify and work in situation involving symptoms of natural calamity related stress.
- To know how does modern permanent national command centre work with
  communication and data links to all state capitals.

CONTENT OUTLINE

Unit 1: Introduction to disasters
Definition – fundamental aspects of disasters- components-causal factors of disasters-phases
of disasters-classification: natural and human caused- dimensions: meteorological / climatic,
hydrological, geological- effect of disasters on human life- disaster mitigation – hazards.

Unit 2: Disasters preparedness and planning
Disaster preparedness: public participation, consolidation, co-ordination and training,
precautions of community realities, building human relationship network. – Disaster
planning: anticipation, preparation of moderate sized disasters, preparing more common
disasters, predictable disaster task, adapting routine emergency, moderate expansion, cost-
sharing and executing the plan.

Unit 3: Major Disasters in India
Earthquake- tsunami -flood- cyclone- landslide- drought- hurricane- storm surge- recent
disasters 2004-till now.

Unit 4: Disasters management
Disaster management act(2005)- disaster management cycle (2P3R)- national level disaster
management response agencies: NDMA, NIDM, national disaster response force, ministry of
science and technology, Indian armed forces, Anirudha’s academy of disaster
management(AADM) –Disaster Management operations: Pre- peri - post disaster
management – warning system – Relief measures – Rehabilitations Disaster Management
Exercise: Search and Rescues – relief – temporary shelter – employment to affected people in natural calamities – reconstruction and resurgence of infrastructures. – Coordination in logistic chain: Coordination between centre and state functionaries in the logistic chain – national emergency response force providing succour and relief to the people Tackling effects of natural calamities: Coping up with all natural disaster and preventing loss to human lives and property

Unit 5: Leading and controlling Disasters management
Generating awareness: Creating awareness about common signs – symptoms of natural calamity related stress – mitigating impact of disaster. —Preparedness towards disaster:

Mode of Transaction
Lecture method, Power point presentation, e-learning, spot teaching, Assignments, Field visits, Rally, Paper/poster presentation, Seminar/discussion, Quiz & debate

Practicum: Task and Assignment
1. Prepare a picture album regarding any one of the disasters and project the picture to the class for group reflection to manage such abnormal situation. — submit a report.
2. Search in the internet regarding disaster management practices in various countries and suggest a innovative disaster management practice for any one of the following to Indian condition a) cyclone, b) floods c) Earth quack d) fire e) Tsunami
3. How can you organize a disaster management team in a village or coastal area? Write a detail programme along with and other resources to meet the disaster.
4. Conduct a survey in a village or in coastal area regarding the knowledge of disaster and the management. Submit the report for classroom discussion.
5. How can you create awareness among the students on disaster management? Prepare a detail programme and syllabi. Submit a proposal to get funding from the Government and other agencies.

Mode of Assessment:
Written test, Task and assignment and Observation

References:
2. Baron, Robert A (2001), Psychology, Pearson Education (Singapore) Pte. Ltd, Delhi (India)
Course -57(ix): Women Education

Theory

Essence of the course:

As per the constitution of India there should be no gender discrimination shown with respect to access to educational provisions as well as in employment opportunities. It is only through empowering women through education we can reduce gender disparity vividly observed at all educational level and employing institutions. It is not only through empowering women through education but also through removing gender bias existing in the society at all levels. This course attempts to develop awareness among student teachers about the need for women education, methods of developing sensitivity and respect for women including girls through curriculum and its transaction. The student teachers in turn can reduce gender bias and promote gender sensitization in their class.

Objectives:

At the end of the course, the student teacher will be able to

- acquire the knowledge of the concept on women's education.
- make the student-teachers understand the need for women's education.
- Developing understanding in role of teacher promoting gender equality

CONTENT OUTLINE

Unit 1: Women's Education
Meaning, aims and objectives of women’s education – Need for women’s education in India – Women education in post-independence India, Challenges and issues.

Unit 2: Problems of women
Problems of women: Resistance and poverty, Governance and gender inequity, Gender parity, existing prejudices against women, inadequate nutrition, Literacy rate of women. – Discrimination in educational and social opportunities – Child marriage

Unit 3: Women education in society
Aspiration of Indian society for sustainable development of girls, Planned government efforts, Achieving quality of life, equality of opportunities, equity, social justice and empowerment – Retrospective profile of women in a tradition bound society, Prospective profile of women in the changing Indian Society.

Unit 4: Education and gender gap

Unit 5: Information as a transformative tool
Mode of Transaction

Lecture, Discussion, Observation, Debate, Field visit, Project, poster presentation

Practicum: Task and Assignment

1. Prepare an album to show the status of women in India on any one of the following aspects
   a. Education,
   b. Politics
   c. Profession
   d. Employment
   e. Entrepreneurship
2. Conduct an opinion survey on the freedom of women in society.
4. Analysis the roles of state and central government on empowerment of women
5. Write a report based on aspiration of girl students and issues to challenge to their achievement.
6. Analyze of any prescribed text book at high school level for gender bias.

Mode of Assessment

Written test, Task and Assignment

References:

1. Mukerji, S.N.: Education in India and tomorrow
Course -57(x): Human Rights Education

Theory

Essence of the course:
India with young human resource can emerge an advance country in all aspects if human resource is developed to the needs of the 21st century. This course can enable student teacher to be a responsible human resource developer.

Objectives:
At the end of the course, the student teacher will be able to
• respect for human dignity.
• understand the basic freedom of the individual and classify broadly.
• know the brief history of development of human rights.
• appreciate that the citizen’s fundamental rights protect the Human Rights Act, 1993.
• understand NPE with reference to women, SC, ST, minorities and physically challenged.
• set up cell to nurture the culture of Human Rights in Schools and Colleges.
• setting up an integrated and egalitarian society.

CONTENT OUTLINE

Unit 1: Introduction to Human right education
Concern for Human Rights and Fundamental Freedom – the task of protection and promotion of human rights – Basic freedom of the individual interpreted as minimal Broad classification of rights such as civil and Political and economic, social and cultural.

Unit 2: Fundamental rights for education

Unit 3: Human rights concerns
Human rights arises and violations – handed labour, child labour, infanticide, gender discrimination etc. – Free legal cells and their functions – National integrally and upholding of constitutional on obligations.

Unit 4: Educational Rights in institution
Setting up of Human rights in schools and Colleges – function under the head of institution – Development of Child rights: physical, mental, emotional growth – Rights to life and education – derail of rights and child labours.

Unit 5: secular education
Setting up of an integrated and egalitarian society – Awareness regarding socialism among students and teacher – Democratic socialism and Gandhism model of socialization.
Education in India is secular non-denominational-secular education is for knowledge and spirits of an objective and tolerant manner and not for faith and religion ideas-secular culture based rational outlook is to be developed.
Mode of Transaction
Lecture, Discussion, Observation, Debate, Field visit, Project, poster presentation

Practicum: Task and Assignment

1. Search in the internet regarding Human resources Development programme in various countries and prepare a report.
2. Imagine you are the human resource development organizer, how can you organize the programme in your school.
3. Prepare a HRD programme for women in a local village based on your survey.
4. Analyze the Human resource planning in India with other countries.
5. Visit any training center and evaluate the programme from Human resource development point of view.

Mode of Assessment
Written test, Task and Assignment.

Reference:
Course – 58: EDN II (EPG) YOGA, HEALTH AND PHYSICAL EDUCATION II

Practicum

Credits 2

Essence of the course:
The focus of the present course is on understanding the physical, mental fitness for healthy life. This course discourses the yogic exercise, health, and its importance. It also helps to understand the recent diseases and precaution.

Objectives:
At the end of the course, the student teacher will be able to
• create awareness on difference aspects of health and fitness.
• acquire the knowledge of Yoga & exercises
• understand the physical fitness & Yoga.
• learn good health habits.
• develop total personality and suitable leadership
• enable student teacher organize physical activities

CONTENT OUTLINE

Unit 1: Yogic exercises

Unit 2: Yoga in daily life

Unit 3: Growth and requirements
Human body: Growth & development a children at different ages, their needs and interests, psychological development – Physical, emotional and mental changes during adolescence. Sexual abuse: Myths and misconceptions regarding growing up, Management of stress and strain and life skills. Nutrition: Dietary requirements needs according to age, sex – Need for diet planning: Food and water.

Unit 4: Communicable and Non-communicable diseases
Heart Diseases, Cancer, HIV/AIDS, Swine Flu, Reproductive Helpless Health, Osteoporosis, Depression, Intentional & Unintentional Injuries, Diabetes, and Obesity, Uncommon Diseases- Autistic, Cerebral Palsied, Blood Borne Diseases-Beta Thal Major, Sickle Cell Anemia, Hemophilia; Diagnosis, Prevention & Prognosis. Pollution: Types, Causes, effect and control of various pollution

Unit 5: Health and sports
Fundamental skills of games & sports: Sports for recreation and competition, Rules and regulations of sports, Sports ethics, Sports awards and scholarships, Sports – personship –
Develop of physical fitness, Postures, Importance of relaxation, Health and physical education and its relationship with other the subject areas like science, social science & languages.

Mode of Transaction
Lecture, Discussion, Observation, Debate, Field visit, Project, poster presentation

Practicum: Task and Assignment
1. General guidelines for performance of the practice of yoga for the beginners
   1. Guidelines for the practice of āsanas
   2. Guidelines for the practice of āsanas
   3. Guidelines for the practice of ādhyātma
   4. Guidelines for the practice of āsana yoga
   5. Guidelines for the practice of meditation
2. Project on health / Sports and Yoga
3. Organisation of games & sports
4. Visit sports stadium and report
5. Participating various games and discuss all the games in class.
6. Health education and yoga – Analysing various topics by using various charts, photographs and other materials.
7. Surfing to know the different sport and games in India and report
8. Prepare the portfolio for Yoga and its advantages.
9. Make a sports album.

Mode of Assessment
Written test, Task and Assignment.

References:
3. Raja Yoga – Methods and practices – Dalmine

12. Jason Liu and Dr. Gwendalle Cooper (2009) Scientific Analysis of the Effects of Falun Dafa Presented at International Conference of Psychologists, February 27, 2009 by Catherine Hennessy


17. www.FalunDafa.org

Course – 59: EDN II(EPC) UNDERSTANDING SELF

Practicum Credits 2

Essence of the course:
Most of us are neither aware of our strengths nor weaknesses. The focus of the present course is on understanding the self-physical, mental, emotional and spiritual. The course culminates into realization of the universal self. Various processes for understanding the self have also been specified.

Objectives:
At the end of the course, the student teacher will be able to
- Understand the meaning and importance of self-concept and self-esteem.
- Be aware of different factors related to self-concepts and self-esteem.
- Record a brief history of the history of development of yoga through the ages.
- Discuss how yoga and yoga practices are important for healthy living.
- Explain some important principles of yoga.
- Explain the different limbs of Astaṅga yoga.
- State the different types of yoga.
- Derive how Hatha yoga and Astaṅga yoga are complementary to each other.
- Name the śāṭkarma and describe their use in cleansing the body and the mind.
- Demonstrate some important āsanas, and prāṇāyāma.

CONTENT OUTLINE

Unit 1: Self-concept

Unit 2: Professional identity of teacher
Sensibilities, dispositions, resilience and skills personal growth: communication skills ability to listen and observe – holistic and integrated understanding self and personality – Teambuilding, respecting, sharing responsibility – the change agent – designing and leading change / social action

Unit 3: Modes of expression
Opening self, reflection, self-expression: explore dreams, aspirations, concerns, including poetry and humour, creative movement, aesthetic representations – culture for listening and accepting through story making, self-disclosure, art, dance and theatre

Unit 4: Self-esteem and Identities of self
Gender, relational, cultural beliefs, stereotypes and prejudices – identities awareness in political, historical, and social forces – personal narratives, life stories, group interactions, film reviews, addressing conflicts, Nature walk/field visit, adventure.

Unit 5: Meditation and Yoga enhance abilities of body and mind
Meditation and Yoga, meaning, practice and importance– Live in peace and harmony with one’s surroundings – promote sensibilities – appreciate the philosophy of yoga and its role – practice and use of yoga in different contexts

Mode of transaction
Lecture-cum-discussion, workshop sessions, assignments, presentations by students

Practicum: Task and Assignment
1. Sharing case studies/biographies/stories of different children who are raised in different circumstances and how this affected their sense of self and identity formation.
2. Watching a movie/documentary where the protagonist undergoes trials and finally discovers her/his potential despite odds.
3. Issues of contemporary adolescence/youth need to be taken up as student-teachers first need to understand themselves; and themselves in relation to their students and classroom situations.
4. Different modes of expression can be used in each of the sessions (so that each of the students get a chance to express herself through any of the modes that they are comfortable in) and at the end of the year, the resource person and the coordinating faculty can reflect back on whether all modes of expression were included through the sessions of not.
5. The exercise of developing reflective journals and providing regular feedback on those journals can also be used here
6. Workshop for development of the inner self and the professional identity as a teacher trainee
7. Programmes to develop social relation and effective communication skills
8. Team building to draw up collective strengths as an individual in society
9. Yoga and the practice of yoga

Mode of Assessment
Written test, Task and Assignment

References:
SEMESTER VIII

CORE 22 - OPERATIONS RESEARCH II

ESSENCE OF THE COURSE: This course introduces the modeling techniques, theory and computation of linear and integer programming, including the following topics. The structure of linear programming: polyhedrons and basic feasible solutions. The simplex method to solve linear programming. Sensitivity analysis. Linear programming duality and complementary slackness. Linear programming modeling techniques. Blending problems. Inventory problems. Minimum cost network flow problems, with transportation problems, shortest path problems and assignment problems as special cases. Integer programming modeling and the branch-and-bound method. Capital budgeting and fixed charge problems. Basic dynamic programming. Two-person games.

OBJECTIVES:
At the end of the course the student teachers will be able to
- acquire the knowledge of concepts of the Operations Research
- understand the concepts of the Operations Research
- apply course material along with techniques and procedures covered in this course to solve problems
- develop the skills to solve problems based on Operations Research.
- develop interest on Operations Research
- develop the power of original and creative think

CONTENT OUTLINE
UNIT-I
Sequencing Problem:
Problems with n jobs through 2 machines - Problems with n jobs through 3 machines
Problems with n jobs through m machines.

UNIT-II
Dynamic Programming:
Recursive approach Computational Procedure Tabular Method Solution of LPP
by dynamic programming.

UNIT-III
Inventory Control:
Deterministic Models:
(i) Uniform rate of demand, infinite rate of production, no shortages
(ii) Uniform rate of demand, finite rate of replenishment, no shortages
(iii) Uniform rate of demand, instantaneous production, with shortages
(iv) Uniform rate of demand, instantaneous production, with shortages and fixed time

UNIT-IV
Games and Strategies:
Competitive games Two person zero sum game Maximin - Minimax principle
Saddle point Solution using the principle of dominance - Graphical solution.

UNIT-V
Simulation Technique:
Introduction Even type simulation Generation of random phenomena Monte Carlo technique - Simulation technique applied to inventory problems.

Text book:
Unit 1: Chapter 9 Sections 9.1 to 9.6
Unit 2: Chapter 10 Sections 10.1 to 10.5
Unit 3: Chapter 11 Sections 11.2 to 11.5, 11.18
Unit 4: Relevant portions
Unit 5: Relevant portions

Mode of transaction of the course
Discussion, problem solving, activities, individual and group work, student questions, student participation, and lecture. Project work.

Practicum activities: Task and Assignment

Two questions from each unit

REFERENCE BOOKS:
Course -61(vi): Pedagogy of Mathematics I – Part 4

Theory

Credits 4

Essence of the course:
This course is to enable students to specialize in Mathematics and to develop an understanding of the curriculum, linking school knowledge with community life. The course includes reconstruction of Mathematical Knowledge through appropriate pedagogic processes and to communicate meaningfully with children.

Objectives:
At the end of the course, the student teacher will be able to
- acquire the knowledge of competence in teaching Mathematics
- develop clear perception of the Secondary School Mathematics.
- develop awareness of recent trends and principles of construction of Mathematics curriculum.
- know the importance of computers in teaching and learning of Mathematics
- understand the various psychological aspects involved in teaching Mathematics
- know the importance of aesthetic and recreational Mathematics
- develop an understanding of resources of teaching and learning Mathematics.
- help the student teacher for the professional self-development
- enable the student teachers to identify gifted and slow learners in Mathematics and to meet the requirements.
- stimulate to pose and solve meaningful problems and creativity in Mathematics.
- develop insight into individual differences in learning Mathematics to cater to the needs and requirements of students.
- develop skills in construction of appropriate assessment tools for evaluating Mathematics learning

COURSE CONTENT

Unit 1: Development of Problem-Solving Ability and Creativity in Mathematics

Unit 2: Mathematics education for all
Factors influencing the learning of Mathematics-Motivation, Perception, Attitude and Aptitude, Thinking (Divergent and Creativity), etc. - Gifted Children in Mathematics – Meaning, Characteristics and Enrichment programmes, NTSE – Mathematics Olympiad.

Unit 3: Evaluation

Unit 4: Recreational programme in learning Mathematics

Unit 5: Identification of learning difficulties
Identification of Learning difficulties - Slow Learners in Mathematics – Meaning, Characteristics, Reasons for Slow Learning and learning difficulties: dyslexia, dysgraphia and dyscalculia - remedial measures.

Modes of Transactions:

Learning Activities:
Learning the Content and practicing them appropriately, Oral work, drill, Review and Practicing Pedagogical Aspects for different areas of School Curriculum.

Practicum: Task and Assignment
1. Prepare remedial measures for any difficulties in learning Mathematics or prepare enrichment programmes for gifted children.
2. Create the collection of mathematical puzzles, riddles for secondary students
3. Collect the mathematical shapes and record it.
4. Search the NET about the mathematical correlation with other subjects
5. Construct any five problems that have multiple right solutions.

Mode of Assessment:

References:
Course -61(viii): Pedagogy of Physical Science I – Part 4

Theory  

Credits 4

Essence of the course:
After having learning this Course, student teachers understand the nature of physical science teacher, the learner, resource material including ICT for teaching physical science and evaluation process. This course comprises, pedagogical approaches for organizing science related activities; and assessment of the learner.

The student-teachers will work with theoretical studies as well as on the field with school children from various backgrounds. They will capable to critically teach the science in their internship school and examine teaching learning processes also developing of self.

Objectives:
At the end of the course, the student teacher will be able to
- acquire knowledge about the term and concepts used in teaching physical science.
- understand nature of the learner and classroom situation.
- apply the knowledge in constructing test and developing ICT resource in teaching physical science.
- enhance skill in organizing and maintaining of physical science laboratory.
- create interest in organizing science related activities.
- develop a desirable positive attitude towards science teaching.

COURSE CONTENT

Unit 1: Laboratory as a Learning Resource
Objectives of laboratory work – Planning laboratory work – Approaches to laboratory work – Working plan for group of students (Batch) in the laboratory – Motivating students to maintain the regular record of laboratory work – Safety in laboratories and precautionary measures.

Unit 2: Organization and Maintenance of Physical Science Laboratory

Unit 3: Assessment of children’s learning in Physical Science

Unit 4: Tools and techniques of assessment in physical science
Purpose of assessment – tool and techniques of assessment: Project work, Field trips and field diary, Laboratory work, Concept mapping, Interview/oral test, written test including types and construction. – Recording and reporting: measurement of students’ achievements, grading system and type. – Measures of central tendency – measures of variability – correlation.
Unit 5: Professional Development of Physical Science Teachers

Teaching as a profession – need for pre-service professional development programmes – special qualities of a science teacher – ethics of a teacher–need for in-service professional development programmes – opportunities for in-service professional development – reflective practice – Teacher as researcher – Action research in physical science.

Mode of transaction:
Lecture-demonstration method, Project method, Problem-solving method, CAI, Observation method (field visit/exhibition/internship), Seminar/ discussion

Practicum: Task and Assignment
1. Demonstrate the experiment to the peers in your college laboratory (Experimentation)
2. Creatively construct any 3 improvised apparatus (Exhibit).
3. Observe a school and draw general, physics and chemistry laboratory (Drawing)
4. Analyse and study continuous and comprehensive evaluation which is followed in your internship school(Report)
5. Construct a tool for an oral interview to assess the school children toward their academic interest (Survey).
6. Collect information related to in-service programme provided for professional development (Collection).

Mode of Assessment:
Written test, Task and assignment, Laboratory work, Observation

References:


Web Resources:
1. www.ncert.nic.in/departments/nie/desm/publication/.../phy_sci_part1.pdf
2. www.ncert.nic.in/departments/nie/desm/publication/.../phy_sci_Part2.pdf
4. UNESCO Competency Framework for Teacher  
   www.unesdoc.unesco.org/images/0021/002134/213475e.pdf
6. ICT transforming education: a regional guide  
   http://unesdoc.unesco.org/images/0018/001892/189216e.pdf
Course -62: EDN I(C&P S)  PEDAOGOGY OF SCHOOL SUBJECT II

Course -62(i): Pedagogy of Tamil II – Part 4

தமிழ் சிற்பத் தமிழ் II - பகுதி 4

Theory  Credits 4

அமைப்புச் சிற்பங்கள்

கல்லறையில் தமிழ் சிற்பம் அந்தமானுடைய பொருட் வளர்ச்சிப் பொருள் அறிவியல்
செயல்பாடு. கல்லறையில் அறிவியல் குறிப்பிட்டு தமிழ் சிற்பன்றுப்படுத்தும் முறையே
அறிவியல். தமிழ்ச் சிற்பத்தில் கல்லறையில் சிற்பங்கள் பலரும் அறிவியல்,
புத்தாண்டு தமிழ்ச் சிற்பங்கள் சிற்பங்கள் அறிவியல் குறிப்பிட்டு
அமைப்புச் சிற்பங்கள் தமிழ்ச் சிற்பங்கள் பெருந்தரும் அறிவியல்
செயல்பாடு. மறுவரிசையிலும் தமிழ்ச் சிற்பம் தமிழ்ச் சிற்பங்கள்
அறிவியல் செயல்பாடு. தமிழ்ச் சிற்பங்கள் தமிழ்ச் சிற்பங்கள்
அமைப்புச் சிற்பங்கள் தமிழ்ச் சிற்பங்கள்

சூழ்நிலைகள்:

• கல்லறையில் தமிழ்ச் சிற்பங்கள் பொருட்பாடுகள் அறிவியல் செயல்பாடு.
• பெருந்தரும் அறிவியல் குறிப்பிட்டு.
• தமிழ்ச் சிற்பங்கள் புத்தாண்டு அறிவியல் செயல்பாடு.
• சிற்பங்களும் பயன்பாடும் பொருள் அறிவியல் செயல்பாடு.
• பொருட்பாட்டுகளும் பயன்பாடுகளும் அறிவியல் செயல்பாடு.
• சிற்பங்கள் அமைப்புச் சிற்பங்கள் அறிவியல் செயல்பாடு.

அங்க 1: தமிழ் சிற்பம் அமைப்புச் சிற்பங்கள்

அமைப்புச் சிற்பங்கள் பொருட்பாடுகள் - அமைப்புச் சிற்பங்கள் - அமைப்புச் சிற்பங்கள் - அமைப்பு
செயல்பாடுகள் - அமைப்புச் சிற்பங்கள்

அங்க 2: தமிழ் சிற்பம் புத்தாண்டு

செயல்பாடு சிற்பங்கள் - செயல்பாடுத் தமிழ் - புத்தாண்டு சிற்பங்கள் மறை - சிற்பங்கள்
செயல்பாடு - புத்தாண்டு சிற்பங்கள் - நூற்றாண்டு சிற்பங்கள் - நூற்றாண்டு
சிற்பங்கள்

அங்க 3: பொருட்பாடுகளும் சிற்பங்களும்

கல்லறை - கல்லறை - தமிழ்ச் சிற்பங்கள் - அமைப்புச் சிற்பங்கள் - சிற்பங்கள் -
சிற்பங்கள் - இவ்விரு பகுதிகளிலும் பயன்பாடு - சிற்பங்களும் - சிற்பங்கள்
செயல்பாடு

அங்க 4: வரலாற்று புத்தாண்டு

புத்தாண்டுகளும் தமிழ்ச் சிற்பங்களும் - தமிழ்ச் சிற்பங்களும் அமைப்புச்
சிற்பங்கள் - சிற்பங்கள் - சிற்பங்கள் - சிற்பங்கள் - சிற்பங்கள் -
சிற்பங்கள் - சிற்பங்கள் - சிற்பங்கள்.
மறு முதல் பல்லாவை கல்வி வழக்கம் - பழக்கம் - ஏழாண்டி - முன்னேற்றம் - தொழில்நுட்பம் - பயில்பாடு - கல்விக்கொள்ளும் போராட்டம் - கல்வியற் கல்வி - கல்வியற் கல்வி - தொழில்நுட்பம் - கல்வியற் கல்வி பல்கலைக் கல்வி பல்கலைக் கல்வி பல்கலைக் கல்வி பல்கலைக் கல்வி பல்கலைக்

முறை

ஒன்றுக் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மை�ில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மை�ில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மை�ில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மையில் கூட்டு, அண்மைய்
Course -62(ii): Pedagogy of English II – Part 4

Theory

Essence of the course:
Equipping the student teacher with English knowledge for communication and appreciation. Developing the skill of communication in order to help children at various school levels towards effective communication. The course focuses on developing the ability of the future Teachers to transact language in inclusive classroom.

Objectives:
At the end of the course, the student teacher will be able to
- develop English Language teaching competency.
- understand and appreciate the importance of English.
- have a critical study of learning English as a second language in the multilingual Indian Society.
- understand the role of English in India and to improve English Language attainment.
- produce the different methods, techniques and strategies of ELT.
- Prepare and use appropriate teaching aids to make teaching more effective.
- develop the various micro skills to teach English language.
- acquire the skill of preparing lesson plans to teach English.

CONTENT OUTLINE

Unit 1: Skill of speaking
Concept of speaking in English as a second language. - Use of pronouncing dictionary-
Technique of teaching speaking skills and pronunciation practice and drills – Ear Training,
Repetition, Dialogues and conversation: Role of A.V. aids in teaching speaking skills.

Unit 2: Skill of writing
Mechanics of writing: Skills of writing- Discourse skill and Judgment Skill Reference skills-
note making and note taking, reporting, summarizing, paragraphing, Characteristics of good
hand writing, methods to develop good handwriting.

Unit 3: Challenges of teaching English language
Problems cropped up while teaching English in Indian schools - Difficulties faced by English
teachers in the classrooms and suggestions to overcome them. Interference and influence of
mother tongue.

Unit 4: Analysis of syllabus, textual materials and professional competency of English teachers
Understanding the relationship between curriculum, syllabus and text book. Qualities of a
good text book- Selection of materials -Development of activities and tasks. Connecting
learning to the outer world – rote learning to constructivism- Qualities of a good language
teacher- Professional development of English teacher.

Unit 5: Assessment and evaluation in English
Concept of assessment and Evaluation in English- Concept, need and techniques of
Continuous and Comprehensive Evaluation (CCE) in English- Types of tests - Achievement
test, proficiency test, Diagnostic test, Prognostic test.-Preparation of an Achievement test-
Concept and need of remedial teaching.

Mode of Transaction:
Demonstration of teaching specific grammar items, Seminar on different expressions,
Comparative study of various forms of compositions, Demonstration of steps followed in different
methods, Introductory lecture, Observation of video clips, Through Situational presentations, Usage
of Language games, Presentation of good models by native speakers, Through language lab,
Framing, evaluating and interpreting a question paper.

Practicum: Task and Assignment
1. Watching video recordings
2. Oral Communication tasks
3. Language Lab activities
4. Workshop on preparation of blue prints, question papers, marking scheme and question wise
   analysis.
5. Construction of test items for diagnosis and achievement test and interpretation of test data

Mode of assessment:
Analysis of Group discussion, Participant Observation, Monitoring performance of
communicative tasks, Evaluation based on documentation (written), Performance evaluation
(Seminar, Assignment & Project)

References:
2. Balasubramanian.T (1990), The Text Book of English phonetics for Indian Students,
   Macmillan.
   Ltd.
    1998.
15. Françoise Grellet. (1986) Developing reading skills, CUB.
    Arnold.
Course-62 (vii): Pedagogy of Physical Science II – Part 4

The same syllabus as given for course – 61(vii)
Course -63: EDN I(C&PS)    ASSESSMENT FOR LEARNING – II

Theory

Essence of the course:
The course is designed keeping in mind the role of assessment in enhancing learning. It will focus on various tools and techniques of evaluation. There will also be focus on continuous and comprehensive evaluation. The course will also deal with critical understanding of issues in assessment and also explore realistic, comprehensive and dynamic assessment process. The course will also give emphasis on the need for formative and summative evaluation as well as quantitative and qualitative assessment for learning.

Objectives:
At the end of the course, the student teacher will be able to
- acquire basic concepts in assessment and evaluation.
- develop the awareness about different areas of assessment.
- discriminate different perspectives in assessment.
- develop understanding about the meaning and the process of CCE
- know different techniques of evaluation, tools of evaluation and their uses.
- know different characteristics of instruments of evaluation.
- discriminate teacher made test vs standardized tests in assessment
- prepare, administer and interpret of results of tests and different evaluation techniques
- compute simple statistics to assess the learning.
- develop awareness about use of technology in assessment and evaluation.

COURSE CONTENT

Unit 1: Characteristics of Instruments of Evaluation

Unit 2: Teacher made Achievement Tests
Essay and Objective type tests – Improving essay type questions – Different types of objective tests, their characteristics, advantages and disadvantages. – Relating test items and specific behavioural objectives – Preparation of blue print – Characteristics of a good test

Unit 3: Standardized tests
Concept and characteristics of standardized test – advantage and disadvantage using standardized tests and teacher made tests – standardized tests for measuring intelligent, attitude, aptitudes, interest, values, personality, and achievement.

Unit 4: Teaching effectiveness and assessment:
Concept and criteria for assessing teaching effectiveness – Assessing teaching using observation schedules – Student evaluation of teaching – student’s ratings of teaching effectiveness, dimensions and problems. – Uses of assessment for feedback for improving instructional process – System(Flander’s) for observation for recording classroom interaction patterns and uses –Use of interaction analysis in the classroom for teacher assessment.
Unit 5: Technological based Quantitative and Qualitative analysis of learning outcomes

Mode of Transaction:
Lecture cum discussion, Seminar, Team Teaching, Practical work, Power point presentation

Practicum: Task and Assignment
1. Preparation, administration and interpretation of results of tests and different evaluation techniques
2. Writing educational objectives, learning experience and corresponding evaluation techniques, General and specific objectives
3. Framing measurable and non-measurable learning outcomes
4. Finding out the content validity of the given question paper
5. Designing Rating scale, Questionnaire, Interview Schedule in a given a topic
6. Framing Different types of questions
7. Preparation of Blue Print and a question paper
8. Prepare graphs and use statistics for analysis of test result
9. Preparation of interaction analysis report after the observation of any five teachers and peer teachers working in schools

Mode of Assessment:
Submission of Assignments, Preparation of tests various types of test items, Data collection and statistical analysis, Participation in Group discussion

References:
1. Assessment for Learning and Teaching in Primary Schools By Mary Briggs, Angela Woodfield, Peter Swatton
EDNII(PRACT)  TEACHING COMPETENCY

Each student teacher will be attached to a school or two schools in one or two blocks of internship. The total duration of internship will be 16 weeks. During internship in a school, Student teachers should perform the roles of a regular teacher at the respective level under the direct guidance and supervision of the mentoring teacher (Supervising / Guide Teacher) of the school. While at school, the student teacher shall prepare the necessary teaching resources and records for teaching lessons (duration of 45 minutes each). Each student teacher will spend first week of internship for observation. During the internship student teacher will develop teaching competency by observing and teaching lessons in both the pedagogy subject chosen. The details of roles to be performed and records to be produced with respect to Pedagogy of school Subject I and II. and Course at the end or given below.

Course -64: PEDAGOGY OF SCHOOL SUBJECT I

Practicum

During the first week of the internship, the student teachers will observe classes taken by regular school teachers (at least 5 lessons in pedagogical subject I)

During the next 15 weeks, each student teacher has to give at least 15 lessons for Pedagogical Subject I (at least one should be ICT based) at level one and 15 lessons (at least one should be ICT) at level two

The internship for graduates must be both at upper primary (classes VI- VIII) and secondary (classes IX and X) and for post graduates, it should be at upper primary (classes VI - VIII) or secondary (classes IX and X) and senior secondary (XI and XII) levels. During the internship student teachers will also be engaged in making observation of classes taught by regular teacher (whenever possible) and the peer teachers.

During this period, (i) classroom teaching (ii) evaluation at the end of 15 lessons and (iii) diagnosis based feedback to the students should be completed by every student teacher.

The records to be produced at the end of the internship:

1. 15 lesson plans at each level
2. Lesson Observation records on observations of classes taught by both regular and peer teachers.
3. Teaching resources prepared and used including ICT based
4. Test constructed and administered on students at the end of 15 lesson at each level followed by evaluation report.
5. Record on diagnosis based remedial programme carried out on students
Course – 65: PEDAGOGY OF SCHOOL SUBJECT II

Practicum

During the first week of the internship, the student teachers will observe classes taken by regular school teachers (at least 5 lessons in pedagogical subject II)

During the next 15 weeks, each student teacher has to give at least 15 lessons for Pedagogical Subject II (at least one should be ICT based) at level one and 15 lessons (at least one should be ICT) at level two.

The internship for graduates must be both at upper primary (classes VI- VIII) and secondary (classes IX and X) and for post graduates, it should be at upper primary (classes VI - VIII) or secondary (classes IX and X) and senior secondary (XI and XII) levels. During the internship student teachers will also be engaged in making observation of classes taught by regular teacher (whenever possible) and the peer teachers.

During this period, (i) classroom teaching (ii) evaluation at the end of 15 lessons and (iii) diagnosis based feedback to the students should be completed by every student teacher.

The records to be produced at the end of the internship:

1. 15 lesson plans at each level
2. Lesson Observation records on observations of classes taught by both regular and peer teachers.
3. Teaching resources prepared and used including ICT based
4. Test constructed and administered on students at the end of 15 lesson at each level followed by evaluation report.
5. Record on diagnosis based remedial programme carried out on students.