

Course Code: B3PC1719

Pedagogic Course

B.Ed. Degree Programme
Semester-III
CURRICULUM AND PEDAGOGY OF BIOLOGICAL SCIENCE
EDUCATION
 (4 credits – 120 hours)

✍ COURSE OBJECTIVES:

On successful completion of the course the student teacher will be able to:

1. acquaint with the emerging trends and principles of curriculum construction.
2. apply the knowledge of various teaching models for teaching Biological Science.
3. analyse the content area of Biology text books for standard IX and X.
4. understand various evaluation techniques.
5. Develop the competencies required for a Biology teacher.

UNIT- I: CURRICULUM IN BIOLOGY

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Analyses the principles of curriculum construction	1.1 Curriculum – Meaning, Components of curriculum	• Briefing /Lecture	• Tests (written/oral)
2. Differentiates between various approaches of curriculum development	1.2 Principles of curriculum construction 1.3 Approaches to curriculum development Topical, Logical, Concentric , Spiral, Unitary approach 1.4 Curricular reforms	• Discussion • Interactive learning • Seminar • Group activity • Digital presentation	• Observation • Report writing • Seminar presentation
3. Familiarizes various curricular forms	1.4.1 Biological Science curriculum study 1.4.2 Nuffield Secondary Science Project		

UNIT- II: MODELS OF TEACHING

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Identifies various teaching models for teaching Biological Science 2. Prepares lesson plans based on models of teaching	2.1 Models of teaching – sources, elements and functions. 2.2 Concept Attainment model 2.3 Advance organizer model 2.4 Inquiry training model	<ul style="list-style-type: none"> • Lecture • Discussion • Digital presentation • Interactive learning • Lesson plan preparation 	<ul style="list-style-type: none"> • Tests (written/oral) • Observation • Lesson transcript/plan

UNIT- III: CONTENT ANALYSIS OF BIOLOGY TEXT BOOK

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Analyses the content area of Biology text books for standard IX and X	3.1 Content Analysis– meaning scope, features and methodology of content analysis 3.2 Content Analysis of Biology content of 9 th and 10 th standard text books of Tamil nadu	<ul style="list-style-type: none"> • Lecture • Group discussion • Interactive learning • Peer learning 	<ul style="list-style-type: none"> • Questioning • Tests (written/oral) • Observation

UNIT- IV: EVALUATION IN BIOLOGICAL SCIENCE

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Identifies different types of evaluation 2. Prepares different types of test items 3. Constructs and administers achievement test and diagnostic test	4.1. Concept of Evaluation 4.2. Objective based evaluation 4.3. Formative and summative evaluation 4.4. Different types of Test items 4.5. Types of tests 4.5.1. Achievement test-steps in construction 4.5.2. Diagnostic test-steps in construction 4.5.3. Prognostic test 4.5.4. Continuous and comprehensive evaluation	<ul style="list-style-type: none"> • Lecture • Discussion • Workshop • Digital presentation 	<ul style="list-style-type: none"> • Tests (written/oral) • Preparation of objective based test items • Construction & administration of achievement test and diagnostic test

UNIT- V: PROFESSIONAL DEVELOPMENT OF BIOLOGY TEACHERS

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Identifies the qualities of a Biology teacher 2. Recognizes the role of SCERT & NCERT in the professional development of Science Teachers.	5.1. Qualities of a Biology teacher 5.1.1 Academic and professional qualification 5.1.2. Professional Competencies soft skills, Technological skill 5.2. Professional development of Biology teachers 5.2.1 In-service training 5.2.2. Summer institutes 5.3. Role of SCERT and NCERT in the professional growth of Biology Teacher	<ul style="list-style-type: none"> • Lecture • Discussion • Interactive learning • Seminar • Assignment • Auto instruction 	<ul style="list-style-type: none"> • Tests (written/oral) • Seminar presentation • Assignment evaluation • Report writing

SUGGESTED ACTIVITIES (Any two)

1. Critically evaluate science text book for any one standard.
2. Prepare a lesson plan based on models of teaching.
3. Prepare different types of test items for any one unit in Biology.
4. Prepare a diagnostic test.

PRESCRIBED READINGS

1. Ameeta.P (2010). *Techniques of teaching Biological Science*. New Delhi: Neelkamal Publications Pvt. Ltd.
2. Anju Soni (2005). *Teaching of Biology*. Ludhaina : Tandon publications.
3. Das. R.C (1992). *Teaching of Science*. Amritsar : M/S Krishna Bros.
4. Joyce. B & weil (2000). *Models of teaching (6th Edn)*. Boston: Allyn and Bacon.
5. Passi .B.K (1976). *Becoming a Better Teacher. Microteaching Approach*, Ahmadabad: Sahitya.
6. Mangal.S.K (2005). *Teaching of Biology*. Meerut, Chandigarh: Loyal Publications.

7. Sharma. R.C. (1985).*Modern Science Teaching*. Meerut: Dhanpat Rai and Sons.
8. Sivarajan. A & Faziluddin.A (2005).*Science Education*. Calicut: Calicut University Central Co-operative Stores Ltd.
9. Yadav. M.S (2003).*Teaching of Science*. New Delhi: Anmol Publications.
10. Krishnamacharyalu.V. (2011). *Science Education*. Hyderabad: Neelkamal Publications Pvt. Ltd.

SUGGESTED READINGS

1. Buffaloe, Neal, Thornberry.J.B(1972).*Principles of Biology*. University Press New Delhi: prentice Hall of India Ltd.
2. Saunders.H.N (1967). *The teaching of General Science in Tropical Secondary Schools*. London: Oxford University press.
3. Sood.J.K (1985). *Teaching Life Science*. New Delhi : Kohli Publications.
4. Choudhary.S (2013).*Teaching of Biology*". New Delhi: A.P.H Publishing Corporation.
5. S.P Kulshreshtha (2010).*Teaching of Science*. Meerut: R.Lall Book Depot.
6. Sidhu K.S (2005). *New Approaches to measurement and Evaluation*. Delhi: Sterling Publishing.
7. Robert .M.Thorndike.,(2011).*Measurement and Evaluation in Psychology and Education*. Delhi: Sterling Publishing.
8. Mathew.T.K.&Molikutyy.T.M (2006). *Science Education- Theoretical Base of Teaching and Pedagogic Analysis*. Kerala: Rainbow Book publishers.
9. Jessy Mathews., (2008).*Teaching of Natural Science- Theory, Perspectives and Practices, Methodology of Teaching Life sciences*.

Course Code: B3PC1720

Pedagogic Course

B.Ed. Degree Programme
Semester – III
CURRICULUM AND PEDAGOGY OF ENGLISH EDUCATION

(4 credits -120 hours)

 **COURSE OBJECTIVES:**

On successful completion of the course, the Student teachers will be able to

1. design syllabus for teaching /learning English language
2. familiarise with the select models of teaching for use in the English classroom
3. examine the ways to analyse English textbooks
4. comprehend various modes and means for evaluating English language learning
5. equip with the skills to enhance professional competency

UNIT- I: CURRICULUM DEVELOPMENT

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Develops an insight into the symbiotic relationship between curriculum, syllabus and textbooks 2. Designs syllabus for English	1.1 Understanding the relationship between curriculum, syllabus and textbook 1.2 Curriculum Design - Principles of Curriculum Construction 1.3. Philosophy and guiding principles for the development of English textbooks with reference to NCF2005, SCF 2011, NCFTE, RTE. 1.4 Syllabus designing and Text book development process, Methods of organisation of content.	<ul style="list-style-type: none"> • Lecture • Seminar • Assignment • Group Discussion 	<ul style="list-style-type: none"> • QA Session • Report of • Documentation Analysis • Performance Analysis • Test (oral / written)

UNIT- II: MODELS OF TEACHING

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Understands the effectiveness of practising models of teaching for better classroom instruction.	2.1 Models : Direct Instruction Model - Concept Attainment Model -Advance Organizer Model - Synectics Model -Role Play Model	<ul style="list-style-type: none"> • Visual Presentation/ Electronic • Preparation of scripts for practicing different models of teaching • Peer Learning 	<ul style="list-style-type: none"> • write- up submitted after viewing visual presentation • Evaluation of practicing session • Peer comment

UNIT- III: PEDAGOGICAL ANALYSIS OF CONTENT IN ENGLISH TEXT BOOK

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Explores the ways to analyse English text books	3.1 Pedagogical analysis- meaning and advantages 3.2 Characteristics of a good English textbook 3.3 Pedagogical analysis of Present English textbooks of standard 1X to X11 prescribed by Tamil Nadu government (Intensive and Extensive readers)	<ul style="list-style-type: none"> • Lecture • Small Group Discussion • Group Discussion • Preparation of pedagogical analysis 	<ul style="list-style-type: none"> • QA Session • Role performance analysis in group discussion • Individual assessment of Products

UNIT- IV: EVALUATION IN ENGLISH

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Comprehends the ways of evaluating English language learning	4.1 Evaluation :Purpose- Different types of testing mechanisms - Techniques of evaluation - oral, written, Self-evaluation, Peer Evaluation, Group evaluation , CCE Formative and Summative Evaluation 4.2 Criteria of a good Test in English 4.3 Art of Questioning : Question form-LOT questions– HOT questions 4.4 Construction and Administration of Achievement Test- Diagnostic Test- Prognostic Test- 4.5 Remedial Teaching, Error analysis 4.6 Feedback-meaning and significance	<ul style="list-style-type: none"> • Meaningful verbal learning • Cooperative Learning • Presentation of samples of Achievement Test • Diagnostic Test and prognostic test 	<ul style="list-style-type: none"> • Presentation of different types of sample questions • Role performance -analysis

UNIT- V: ENGLISH TEACHER AND PROFESSIONAL GROWTH

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Conducts action research 2. Develops Professional competencies	5.1 Action research: Concept, significance and steps 5.2 Language teacher competencies - Linguistic Pedagogical, Psychological, literary, Professional English Teacher Blogs, Teacher Tube ESL Café study skills enhancement using Web resources - Note making- Reference skills- Information literacy 5.3 Preparing for IELTS, TOEFL, 5.4 Qualities of an English 5.5 Teacher TKT, TET, NET, SET	<ul style="list-style-type: none"> • Presentation of action research • Views films related to lives of teachers • Reads stories about lives of great teachers 	<ul style="list-style-type: none"> • Evaluation of action research • Submission of task(reflection of the films) • Documentation of tasks (stories)

SUGESTED ACTIVITIES (Any Two)

1. Write a report on current practices of assessment and evaluation of English in the practice teaching school.
2. Identification of the problems faced by the student teacher in the class room (English) and conduct an Action Research.
3. Design an English text book for high school classes.

📖 PRESCRIBED READINGS

1. Bhattacharya, Indrajit (2002). *An Approach to Communication Skills*. New Delhi: Dhanpat Rai & Co. Books.
2. Adams. M.J (1990). *Thinking and Learning about Print*. Cambridge Ma: MIT Press.
3. Alexander.L.G. (1975). *A first book in comprehension précis and composition*. Longman: Hongkong.
4. Brewster Jean, Gail Ellis & Denis Giraf (1992).*The primary English teacher's guide*. Penguin Books: London.
5. Choudhary. N.R (2002). *English Language Teaching* Mumbai: Himalaya Publish House.
6. Cameron, Lynne (2001).*Teaching language to my young learners*. Cambridge University Press: Cambridge.
7. Dave, Pratima.S. (2002).*Communicative Approach to the Teaching of Bachelor of Education English as a Second Language*. Mumbai: Himalaya Publishing House.
8. Kohli A.L (2001).*Techniques of teaching English in the new millennium*. New Delhi: Dhanpat Rai.
9. Singh Y.K (2005).*Teaching of English*. NewDelhi: APH Publishing Corporation.
10. Amritavatl. R (1999).*Language as a Dynamic Text: Essays on Language, Cognition and Communication*. CIEFL Akshara series. Hyderabad: Aillied Publishers.
11. Bond.L.G et at (1980). *Reading Difficulties - Their Diagnosis and Correction*. New York: Appleton - Century Crafts.

📖 SUGGESTED READINGS

1. Nunan, David (1989). *Syllabus Design: Language Teaching*. Oxford: Oxford University Press.
2. Richards. J., & Rogers.T. *Approaches And Methods In Language Teaching* Cambridge: Cambridge University Press.
3. Roberts, Michael &Carol Griffiths. *Errors Correction and Good Language Learners*Cambridge Language Teaching Library.
4. Sharon.A.R &Trina.L.V (2008).*Constructivist Strategies for English Language learners*. USA:Crown press.
5. Tickoo. M.L. (2004). *Teaching and Learning English: A Source Book for Teachers and Teacher Trainees*. New Delhi: Orient Longman.
6. UrPennyand AndrewWright (1992). *Five Minute Activities: A Resource Book for Language Teachers*. Cambridge: Cambridge University Press.
7. Byrne. D (1975).*Teaching Writing*, London: Longman.

8. Bloom. B.S. (1971). *Handbook on Formative and Summative Evaluation of Student Learning*. USA: McGraw Hill Inc.
9. Doff, Adrian. (1988). *Teach English: A Training Course for Teachers*. Cambridge: Cambridge University Press.
10. Ellis, Rod. (1990). *Integrated Second Language Acquisition*. Massachusetts: Basil Blackwell Inc.
11. Heaton. J.B. (1988). *Writing English Language Test: A Practical Guide for Teachers of English as a Second for Foreign Language*. UK: Longman Group.
12. Arnold (1986): *An Introduction To Functional Grammar*. Halliday, M.London.

Course Code: B3PC1721

Pedagogic Course

B. Ed. Degree Programme
Semester - III
CURRICULUM AND PEDAGOGY OF HISTORY EDUCATION
(4 credits – 120 hours)

 **COURSE OBJECTIVES:**

On successful completion of the course the student teacher will be able to:

1. understand the key aspects involved in content analysis of History text book of high school classes
2. familiarize emerging trends and principles of curriculum construction of History in high school classes
3. develop skill and writing lesson transcripts based on selected models of teaching
4. develop positive attitude towards model instructional strategies in teaching history
5. apply the various modes of evaluation strategies in History at school level
6. appreciate the programmes meant for professional development of history teachers.

UNIT- I: CONTENT ANALYSIS OF HISTORY TEXT BOOK

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Identifies the key aspects involved in content analysis 2. Selects the content from social studies textbook for analysis.	2.1 Content analysis-meaning, scope, features. 2.2 Relevance and methodology of content analysis in History. 2.3 Analysis of the content in Social Studies text book of Standard IX, and X prescribed by the government of Tamil Nadu.	<ul style="list-style-type: none"> • Discussion • Interactive session • Analysis of text book content 	<ul style="list-style-type: none"> • Test (oral/written) • QA Session • Evaluation of content analysis report

UNIT- II: CURRICULUM CONSTRUCTION IN HISTORY AT SCHOOL LEVEL

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Acquaints with emerging trends and principles in the construction and organization of History curriculum 2. Identifies evaluation criteria for history curriculum.	1.1 Curriculum: Meaning and Concept 1.2 Difference between curriculum and syllabus. 1.3. Principles and approaches of curriculum construction: (i) Concentric (ii) Spiral (iii) Progressive (iv) Regressive (v) Chronological and (vi) Geneological 1.4. Evaluation of curriculum in History	<ul style="list-style-type: none"> • Lecture • Discussion • Seminar • Auto Instruction 	<ul style="list-style-type: none"> • Test (Oral/ Written) • QA Session • Seminar presentation

UNIT- III: MODELS OF TEACHING HISTORY

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Acquaints with the concept families and selected items of models of teaching 2. Prepares lesson plan based on selected models.	3.1 Models of Teaching -meaning and Concept, descriptions of the model. 3.2 Different families: i) Concept attainment model ii) Advanced organize model iii) Jurisprudential model iv) Inquiry training model	<ul style="list-style-type: none"> • Lecture • Discussion • Workshop on Model Lesson plan writing 	<ul style="list-style-type: none"> • Test (Oral/ Written) • QA Session • Report writing • Evaluating lesson plan

UNIT- IV: EVALUATION OF HISTORY

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Analyses the various modes of evaluation strategies in learning history	4.1 Concept of evaluation 4.2 Continuous and Comprehensive Evaluation (CCE), Grading 4.3 Formative and Summative evaluation 4.4 Assessment Tools 4.5 Construction of achievement test 4.6 Peer Evaluation 4.7 Diagnostic and achievement test Remedial teaching	<ul style="list-style-type: none"> • Lecture • Discussion • Visual Presentation • Assignment 	<ul style="list-style-type: none"> • Test (Oral/ Written) • QA Session • Evaluating Assignment

UNIT- V: PROFESSIONAL DEVELOPMENT OF A HISTORY TEACHER

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Justifies the need for professional development of History teachers. 2. Equip themselves as a reflective practisener	5.1 Teaching as a profession: pre-service and in-service programme 5.2 History teacher as a reflective practitioner concept and strategies. 5.3 Various programmes for professional development 5.4 Qualities of a History teacher - Professional Competencies-Soft Skills, Technological Skills.	<ul style="list-style-type: none"> • Lecture • Discussion • Seminar • Auto learning • Brainstorming 	<ul style="list-style-type: none"> • Test (Oral/ Written) • QA Session • Evaluation of report

SUGGESTED ACTIVITIES (Any Two):

1. Compare the Social Studies text book of CBSE and Tamil nadu State Board.
2. Observe the best practices in your practice teaching school and prepare a report.
3. Preparation of lesson transcripts based on any one models of teaching.
4. Conduct a interview with the school teachers and prepare a report on the steps taken by Government for their professional development.

📖PRESCRIBED READINGS:

1. Bhata.R.L. (2004). *Contemporary teaching of History*. (2ndEd.). New Delhi: Surjeet publications.
2. Kocchar. S. K. (1995). *Methods and techniques of teaching*. New Delhi: Sterling publishers.
3. Sagar, Krishna. (2005). *ICT Teacher training*. New Delhi: Global network.
4. Singh & Gopal (2004). *Teaching strategies*. New Delhi: APH Publishing Corporation.
5. Sivarajan.K, Thulasideeran & Vijayan.N.K.(2007). *Social science education: Methods and techniques of teaching*. Calicut: Calicut university co-operative store.
6. *Teachers hand book in social science for standard eighth, ninth and tenth*. NCERT Textbooks.
7. Srinivas, Murthi., Rao, I Prasad& Rao, Digumarti Bhaskara.(2004). *Methods of teaching History*. New Delhi: Discovery publishing.

📖SUGGESTED ED READINGS:

1. Ehman. & Patrick. (1974). *Towards effective instruction in social studies*. Ludhiana: Kalyan publishers.
2. Kocchar. S. K. (1995). *Methods and techniques of teaching*. New Delhi: Sterling publishers.
3. Prasad, Janardanan. ((2007). *Audio visual education: Teaching innovative techniques*.New Delhi: Kanishka publishers.
4. Roblyer. M.D. (2008). *Integrating educational technology into teaching*. New Delhi: Pearson.
5. Sagar, Krishna. (2005). *ICT Teacher training*. New Delhi: Global network.
6. Singh., & Gopal.(2004). *Teaching strategies*. New Delhi: APH Publishingcorporation.
7. Sivarajan.K, Thulasideeran & Vijayan.N.K.(2007). *Social science education: Methods and techniques of teaching*. Calicut: Calicut university co-operative store.*Teachers hand book in social science for standard eighth, ninth and tenth*. NCERT Text books.

Course Code: B3PC1722

Pedagogic Course

B.Ed. Degree Programme
Semester - III
CURRICULUM AND PEDAGOGY OF MATHEMATICS
EDUCATION

(4 credits – 120 hours)

✍ COURSE OBJECTIVES:

On successful completion of the course, the student teacher will be able to

1. acquaint with emerging trends and principles of curriculum construction in Mathematics
2. acquaint with various methods/techniques in teaching/learning of Mathematics in high school classes
3. develop understanding of the key concepts involved in Mathematics textbook of high school classes
4. develop understanding of the various modes of evaluation strategies applied in Mathematics at school level
5. familiarise the various strategies for the professional development of Mathematics teacher.

UNIT- I: CURRICULUM DEVELOPMENT IN MATHEMATICS

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Familiarises curriculum development in mathematics 2. Identifies the new trends in curriculum construction and organization 3. Analyses there forms in mathematics curriculum 4. Acquaints with the projects for the development of mathematics curriculum	1.1 Curriculum development in Mathematics – Need and importance 1.2 Principles of curriculum development 1.3 Approaches to curriculum development: logical and psychological, topical and spiral 1.4 Types of curriculum: Activity based, child centered, Community based, Hidden curriculum 1.5 Reforms in Mathematics Curriculum 1.5.1 Rationale and principles of curricular reforms 1.5.2 National and state level reforms 1.6 Study of certain important projects for the development of Mathematics Curriculum– SMSG, SMP, NCERT Curriculum	<ul style="list-style-type: none"> • Lecture • Electronic visual presentation • Seminar • Discussion 	<ul style="list-style-type: none"> • Test (oral/ written) • Seminar presentation • Reports

UNIT- II: MODELS OF TEACHING MATHEMATICS

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Identifies various teaching models for teaching Mathematics 2. Proposes lesson plans based on models of teaching	2.1 Meaning and definition of teaching model 2.2 Assumptions regarding teaching models 2.3 Role of Teaching models 2.4 Families of teaching models 2.5 Some typical models- concept attainment model, Advance organizer model, Cognitive Development Model and Glaser's Basic Teaching Model	<ul style="list-style-type: none"> • Discussions • Electronic visual presentation • Seminar 	<ul style="list-style-type: none"> • Test (oral/ written) • Questioning • paper preparation

**UNIT- III: PEDAGOGIC ANALYSIS OF CONTENT IN MATHEMATICS
TEXT BOOK**

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Develops the ability to critically evaluate the mathematics textbooks 2. Identifies the various topics involved in the content of mathematics at the secondary and higher secondary level	3.1 Characteristics of a good textbook in mathematics 3.2 Analysis of content course of Standard IX to XII in Mathematics textbooks prescribed by the Government of Tamil Nadu.	<ul style="list-style-type: none"> • Seminar • Discussions 	<ul style="list-style-type: none"> • Document analysis • Questioning • Participant observation

UNIT- IV: EVALUATION OF MATHEMATICS

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Identifies the strategies of evaluation 2. Develops skill to construct test items in mathematics	4.1 Concept and purpose of evaluation 4.2 Types of evaluation – formative and summative evaluation, Continuous and Comprehensive Evaluation 4.3 Types of tests– achievement test, diagnostic test and prognostic test 4.4 Different types of test items Construction of Achievement test	<ul style="list-style-type: none"> • Lecture • Seminar • Discussions 	<ul style="list-style-type: none"> • Tests (oral/ written) • Reports

UNIT- V: PROFESSIONAL DEVELOPMENT OF MATHEMATICS TEACHER

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Analyses the qualities of a mathematics teacher	5.1 Special qualities and Professional skills of a mathematics teacher	<ul style="list-style-type: none"> • Lecture • Seminar • Discussions 	<ul style="list-style-type: none"> • Tests • Questioning • Student Reports
2. Develops professional skills needed for mathematics teaching	5.2 In service education for the teachers 5.3 Role of reflective practices in professional development		

SUGGESTED ACTIVITIES (Any two)

1. Prepare a report on curriculum development in Mathematics
2. Construct a diagnostic test in mathematics for any standard
3. Prepare a report on professional skills of mathematics teacher
4. Evaluate mathematics textbook for any one standard

📖 PRESCRIBED READINGS

1. Aggarwal.J.C (2008). *Teaching of Mathematics*. UP: Vikas Publishing House.
2. James, Anice. (2005). *Teaching of Mathematics*. New Delhi: Neelkamal Publications.
3. James, Anice. (2006). *Techniques of teaching of Mathematics*. New Delhi: Neelkamal Publications.
4. Kulshreshtha.A.K. (2008). *Teaching of Mathematics*. Meerut: R.Lall BooksDepot.
5. Mangal.S.K. (2000). *Teaching of Mathematics*. Ludhiana: R.P.Fadon PrakashBrothers.
6. Sidhu. K.S. (2000). *Teaching of Mathematics*. New Delhi: SterlingPublications.

📖 SUGGESTED READINGS

1. Bhatia. K.K. (2001). *Foundations of teaching learning process*. Ludhiana: Tandon Publications.
2. Ebel.R.L. (1979). *Essentials of educational measurement*. New York: Harper and Row.
3. Ediger.M. & Rao. D.B. (2000). *Teaching Mathematics successfully*. New Delhi: Discovery Publishing House.
4. Iyengar.K.N. (1964). *Teaching of Mathematics*. New Delhi: Universal Publications.
5. Rao.D.B. & Pushpalatha.D. (1995). *Achievement in Mathematics*. New Delhi: Discovery Publishing House.
6. Siddiqui.M.H. (2007). *Teaching of Mathematics*. New Delhi: APH Publishing House.

Course Code: B3PC1723

Pedagogic Course

B.Ed.Degree Programme
Semester-III
CURRICULUM AND PEDAGOGY OF PHYSICAL SCIENCE

(4 credits - 120 hours)

COURSE OBJECTIVES:

On successful completion of the course, the student teacher will be able to:

1. acquire knowledge about the meaning, principle and various curricular improvement project.
2. understand the models of teaching and its types.
3. analyze the school content in physical science.
4. develop skill in designing various educational techniques in physical science.
5. develop interest in improving professional development of teacher.

UNIT- I: SCIENCE CURRICULUM

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Recognizes the meaning and importance of curriculum 2. Identifies the various curricular improvement project	1.1 Curriculum meaning and scope, Principles of Curriculum Construction, Approaches to curriculum construction 1.2 Curricular improvement project in India 1.2.1 Role of NCERT 1.3 Curricular improvement project abroad 1.3.1 PSSC 1.3.2 CHEM Study 1.3.3 CBA	<ul style="list-style-type: none"> • Lecture • Discussion • Team teaching 	<ul style="list-style-type: none"> • Test (oral and written) • Assignment • Seminar presentation

UNIT- II: MODELS OF TEACHING

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Describes the concept models of teaching 2. Explains the types of teaching model	2.1 Models of teaching - Definition, Fundamental Elements of Models of teaching. 2.2 Types of Teaching Model. 2.2.1 Inquiry Training Model 2.2.2 Concept Attainment Model 2.2.3 Advance Organizer Model	<ul style="list-style-type: none"> • Digital presentation • Group discussion • Workshop 	<ul style="list-style-type: none"> • Test (oral/ written) • Assignment

UNIT- III: CONTENT ANALYSIS OF PHYSICAL SCIENCE TEXT BOOK

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Analyzes the content of the science text book	3.1 Content Analysis 3.1.1 Meaning, Steps and scopes of Analysis 3.2 Content Analysis of the Physics and Chemistry content portions of 9 th and 10 th of Tamil Nadu state board.	<ul style="list-style-type: none"> • Lecture • Group discussion 	<ul style="list-style-type: none"> • Documentary analysis

UNIT- IV: EVALUATION OF PHYSICAL SCIENCE

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Recognizes the importance of evaluation in teaching learning process	4.1 Evaluation 4.1.1 Concept and Need 4.1.2 Importance 4.1.3 Qualities of good test	<ul style="list-style-type: none"> • Digital presentation • Group Discussion • Assignment 	<ul style="list-style-type: none"> • Test (oral/written) • Test construction • Seminar presentation
2. Prepares an achievement and diagnostic test	4.2 Different types of test 4.2.1 Achievement test 4.2.2 Diagnostic test 4.2.3 Prognostic test		
3. Suggests remedies for teaching physical science	4.3 Construction of an achievement test 4.4 Diagnostic test -Steps 4.5 Remedial teaching in physical science 4.6 Continuous and comprehensive evaluation 4.7 Formative and summative evaluation.		

UNIT- V: PROFESSIONAL DEVELOPMENT OF TEACHERS

Learning outcome	Content	Suggested Strategies and Approaches	Assessment
1. Appraises the teaching profession 2. Identifies the qualities of science teacher 3. Participates in various activities	5.1 Teaching as a profession 5.2 Pre-service and in-service programme 5.3 Role of reflective practices on professional development 5.4 Qualities of a science teacher 5.4.1 Professional competencies 5.4.2 Softs kills 5.4.3 Technological skills.	<ul style="list-style-type: none"> • Lecture • Discussion • Debate 	<ul style="list-style-type: none"> • Participant observation • Report based on debate

SUGGESTED ACTIVITIES (Any Two)

1. Critically analyse the school science text book of IX or X standard.
2. Observe the best practices in your teaching practice school and prepare a report.
3. Conduct a interview with the schoolteachers and prepare a report on the steps taken by Government for the professional development of teachers.
4. Develop a lesson plan in physical science based on models of teaching.

📖 PRESCRIBED READINGS

1. RadhaMohan(2010).*Teachingofphysicalscience*.NewDelhi:NeelkamalPublis hers.
2. Sharma.R.C. (2006). *Modern Science Teaching*. New Delhi: Dhanpat Rai Publications.
3. Gupta.S.K. (1985). *Teaching of Physical Science in Secondary Schools*. Sterling Publication Pvt Limited.
4. Vanaja.M.(2010).*Educational technology*. New Delhi: Neelkamal Publishers.
5. Sivarajan.K & Faziluddin.A (2006).*Science Education*. Calicut University, CentralCo.

📖 SUGGESTED READINGS

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