

Final Year B.Sc.B.Ed.

Course	Subject	Marks	
		External	Internal
		500	
4101	Introduction to Guidance and Counseling In School	80	20
4102	Introduction to Educational Research	80	20
4103	Advanced Pedagogy and Teaching	80	20
4104	Advanced Evaluation Procedure in Learning	80	20
4105	Instructional design and Integration of ICT in teaching learning	80	20
	Chemistry	300	
4111	Organic Chemistry (Term I & II)	80	20
4112	Agricultural chemistry and Dairy Chemistry	80	20
4113	Practical Course	80	20
	Mathematics	300	
4121	Operations Research and Optimization Techniques	80	20
4122	Number Theory & Computational Geometry	80	20
4123	Practical course	80	20
	Physics	300	
4131	Computational Physics & Electronics	80	20
4132	Astronomy and Astrophysics & Lasers	80	20
4133	Practical Course	80	20
	Zoology	300	
4151	Parasitology & General Embryology	80	20
4152	Cell Biology & Public health and Hygiene	80	20
4153	Practical Course	80	20
	Pedagogical Practicum	200	
4201	ICT INTEL PROGRAMME CO-CURRICULAR, HEALTH & SOCIAL SERVICE	100	
4202	ENTREPRENEURSHIP DEVELOPMENT	40	
4303	INTERNSHIP	60	

ELECTIVE COURSE (107 A)**INTRODUCTION TO GUIDANCE AND COUNSELING IN SCHOOL****OBJECTIVES: - To enable the student teacher to**

1. Understand the concept, need and meaning of guidance.
2. Get acquainted with the principles, issues, problems and procedure of guidance.
3. Develop understanding about the role of school in guidance.
4. Understand the various areas, tools and techniques in guidance.
5. Understand the concept, need and meaning of counseling.
6. Get acquainted with the principles and process of counseling.
7. Realize the qualities and role of a school counselor.
8. Understand the tools and techniques in counseling.
9. Realize the importance of follow-up in counseling.
10. Realize the need of counseling for children with special needs.

UNIT NO :- 1 GUIDANCE IN SCHOOL**1/2 CREDIT****Guidance in school:-**

- 1.1 Meaning, concept and Need of Guidance.
- 1.2 Principles of Guidance.
- 1.3 Procedure of Guidance - steps.
- 1.4 Role of school in Guidance.
- 1.5 Areas - Personal, Educational and vocational Guidance, Seven Point Plan in Guidance

UNIT NO:- 2 COUNSELING IN SCHOOL**1/2 CREDIT**

- 2.1 Meaning, concept and Need of counseling
- 2.2 Principles of counseling
- 2.3 Counseling Process
- 2.4 Types: Directive, Non -directive and Eclectic counseling
- 2.5 Qualities and role of a school counselor

UNIT NO :- 3 TOOLS IN GUIDANCE AND COUNSELING**1/2 CREDIT**

- 3.1 Blanks, Cumulative Record Cards, Rating scale, Questionnaires
- 3.2 Psychological Tests :-
 - 1) Intelligence
 - 2) Aptitude
 - 3) Attitude
 - 4) Adjustment

- 3.3 Inventories :- 1) Interest
 2) Personality

[Concept, Imp. and limitations]

UNIT NO: - 4 TECHNIQUES IN GUIDANCE AND COUNSELING 1/2 CREDIT

- 4.1 Observation, Interview and sociometry
4.2 Lectures, Discussion and Dramatics as techniques of counseling.
4.3 Individual and Group counseling.

UNIT NO:- 5 ISSUES IN GUIDANCE AND COUNSELING 1/2 CREDIT

- 5.1 Problems and concerns
5.2 New trends in Guidance and counseling
5.3 Counseling for the children with special needs
5.4 Counseling for parents.
5.5 Importance of follow-up in counseling

Practical (any one)

- 1} Interview of a school counselor
2} Preparation and administration of any one test and make its report. (2 students from 5th to 10th std)
3) Visit to a guidance or counseling centre and write a report.

ELECTIVE COURSE: 107 -B**INTRODUCTION TO EDUCATIONAL RESEARCH****To enable the student teacher to:**

1. understand the concept of research and educational research.
2. comprehend the types, method, tools, and techniques of educational research.
3. develop a scientific outlook towards the problems of education system through research.
4. realize the educational problems and to try and find solutions through research.
5. use the library, online sources and other sources of knowledge for educational research.

UNIT 1:- CONCEPT OF EDUCATIONAL RESEARCH **1/2 CREDIT**

- 1.1 Scientific Inquiry
- 1.2 Research – Concept and Definitions, Research cycle
- 1.3 Educational Research – Concept, Characteristics and Need
- 1.4 Areas of Educational Research
- 1.5 Variables in research: Independent, Dependent, Controlled and Extraneous
- 1.6 Review of related literature: Concept of related literature, Sources of related literature, Need and importance of review of related literature, References and Bibliography.

UNIT 2:- APPROACHES OF EDUCATIONAL RESEARCH **1/2 CREDIT**

- 2.1 Fundamental Research – concept, need and application.
- 2.2 Applied Research – concept, need and application.
- 2.3 Action Research – concept, need and application.

UNIT 3:- METHODS OF EDUCATIONAL RESEARCH **1/2 CREDIT**

- 3.1 Historical – concept, need and steps.
- 3.2 Survey – concept, need and steps.
- 3.3 Experimental – concept, need and steps
- 3.4 Research design – Single group design, Two group design
- 3.5 Hypothesis – concept, need and characteristics of a good research hypothesis

UNIT 4:- TOOLS AND TECHNIQUES OF EDUCATIONAL RESEARCH**1/2 CREDIT**

- 4.1 Observation: definition, characteristics, need in research, types, merits and limitations.
- 4.2 Questionnaire: definition, characteristics, need in research, types, merits and limitations.

- 4.3 Interview: definition, characteristics, need in research, types, merits and limitations.
- 4.4 Rating scale: definition, characteristics, need in research, types, merits and limitations.
- 4.5 Achievement Test: definition, characteristics, need in research, merits and limitations.

UNIT 5:- POPULATION AND SAMPLING

1/2 CREDIT

- 1.1 Population– Concept and Need
- 1.2 Sample – Concept and Need
- 1.3 Techniques of Sampling: Probabilistic and Non Probabilistic
- 1.4 Characteristics of a good sample.

Practical – (any one)

- (i) Write an educational research problem. State its objectives. Develop an appropriate data collection tool (Any one) from:
- * Observation checklist/schedule
 - * Questionnaire
 - * Interview schedule
 - * Rating scale
- (ii) Prepare a poster on a topic related to 'Research'

References:-

1. Best and Kahn - Research in Education
2. Sharma R.C. - Research methodology in Education
3. Garrett, H. E. - Statistics in Education and Psychology
4. Kore - Action Research.
५. उमाठे, मुळे - शैक्षणिक संशोधन पद्धती.
६. कायंदे पाटील - सामाजिक संशोधन पद्धती.
७. बापट भा.गो. - शैक्षणिक संशोधन.
८. भिंताडे वि.रा. - शैक्षणिक संशोधन पद्धती.

Final Year B.Sc.B.Ed
COURSE 104
ADVANCED PEDAGOGY AND TEACHING

Objectives: To enable the student teacher to

1. understand the concept of Advance pedagogy and its implementation in classroom.
2. Use the different pedagogies for meeting the needs of diverse learner.
3. understand the concept of teaching
4. comprehend the aspects of teaching
5. enlist the parameters of effective teaching
6. realize the recent trends in teaching

UNIT 1: INTRODUCTION TO ADVANCE PEDAGOGY

1 CREDIT

- 1.1 Concept, need and significance of Advance Pedagogy
- 1.2 Principles of advance pedagogy
- 1.3 Teaching phases- Philip Jackson Model
 - Pre-active
 - Interactive : teaching strategies and approaches
 - Post-active

1.4 Teacher's role in different teaching phases

UNIT 2: PEDAGOGIES FOR THE FUTURE

1 CREDIT

2.1. Use of various pedagogies

- Engagement of student in teaching learning process.
- ICT
- Student voice
- Critical pedagogy
- Differentiation

2.2 Teaching methods

- Problem based learning
- Field based learning
- Active learning
- Teaching with internet (eg. Google earth)
- Situation based learning

2.3 Understanding by design (UbD) Model

UNIT 3: ASPECTS OF TEACHING

1 CREDIT

- 3.1 Concept and definitions of teaching
- 3.2 Functions of teaching
- 3.3 Teaching skills
- 3.4 Diagnostic testing and Remedial Teaching
- 3.5 Need and importance of :- (i) Annual Plan
(ii) Unit Plan

UNIT 4: EFFECTIVE TEACHING

1 CREDIT

- 4.1 Parameters of effective teaching
- 4.2 Maxims of teaching
- 4.3. Principles of teaching
- 4.4 Models of teaching – Concept, Features, Families and implications for classroom
 - a. Advance Organizer Model
 - b. Concept Attainment Model
 - c. Inquiry Training Model
 - d. Jurisprudential Inquiry Model
- 4.5 Team teaching - Concept and implications for classroom

UNIT- 5 RECENT PEDAGOGICAL TRENDS

1 CREDIT

- 5.1 Blended learning - Concept and implications for classroom
- 5.2 Flipped classroom- Concept and implications for classroom
- 5.3 Distance Learning –Need and importance
- 5.4 Reflective teaching - Concept and implications for a teacher

Practical (any one)

- 1. Case study: A report on Implementation of advance pedagogy in school.
- 2. School based field study of contemporary pedagogical practices.
- 3. Develop an Annual Plan and Unit Plan (one school subject)
- 4. To develop a lesson plan by using advance pedagogy for catering the needs of diverse learners.

COURSE 105

ADVANCED EVALUATION PROCEDURES IN LEARNING

UNIT 1 – CONCEPT OF EDUCATIONAL EVALUATION 1 CREDIT

- a) Meaning of Measurement, Assessment and Evaluation in Education , Relationship between Measurement , Assessment and Evaluation.
- b) Principles of Evaluation.
- c) Taxonomy of instructional objectives (Revised Blooms Taxonomy and R.H.Dave)
- d) Objectives and learning outcomes.

UNIT 2 – PROCESS OF EVALUATION 1 CREDIT

- a) Learning experiences : Meaning , Types- characteristics and merits
- b) Tools and Techniques of Evaluation
 - i) Characteristics of measuring tools and factors affecting them
 - ii) Quantitative tools
 - Performance tests : Oral tests , Practical – nature , merit limitation , Criteria for evaluation
 - Achievement tests : Written Essay and objective test- merit and limitations
Open book exam – merits and limitations
 - iii) Evaluation Techniques : Observation , Introspection , Projective and Sociometry
 - iv) Evaluation rubric : Meaning , Need and Construction

UNIT 3- EVALUATION APPROACH /TYPES /ASPECTS 1 CREDIT

- a) Qualitative and Quantitative
- b) Formative and Summative Evaluation
- c) Continuous and Comprehensive Evaluation
- d) Choice based credit system
- e) Norm-referenced test
- f) Criterion-referenced test (Meaning , Characteristics and Significance)
- g) Internal and External evaluation : nature and areas

UNIT 4-ASSESSMENT OF SUBJECT BASED LEARNING

1 CREDIT

- a) Observation of learning process –by self , peer and teachers
- b) Self assessment and peer assessment
- c) Constructing profiles : Steps involved and criteria
- d) Construction of achievement test with special reference to Content area, objectives and design (Blue Print)
- e) Cumulative records - Developing and maintaining a comprehensive learner profile

UNIT 5 - INTERPRETING TEST SCORES AND FEEDBACK

1 CREDIT

a) Statistical tools to interpret the test scores

(Meaning, Characteristics, and Uses)

- i. Measures of Central Tendency : Mean, Median, Mode
- ii. Measures of Variability : Quartile Deviation, Standard Deviation
- iii. Percentile and Percentile Rank
- iv. Co-efficient of correlation by Spearman's Rank Difference method and Pearson's Product Moment Method
- v. Graphical representation of data : Histogram, Frequency polygon
- vi. Normal Probability Curve : properties, uses ,
- vii. Skewness and Kurtosis

b) Use of assessment for feedback :

- i. Importance of Feedback in learning
- ii. Types of Feedback : Oral and Written, Positive and Negative, Group and Individual and immediate
- iii. Criteria for constructive feedback,
- iv. Feedback by Teacher and Peer : Written, Oral

Practical (any one)

1. Develop a portfolio for assessment of 2 school students
2. Prepare an advanced tool for evaluation.
3. Develop a tool for self-assessment.
4. Develop an achievement test and its blue print.

References:

1. Dandekar W.N. - Evaluation in Schools
2. Garrett Henry E. - Statistic in Education and Psychology
3. Green, Jorgensen and Gerberich - Measurement and Evaluation in the secondary schools.

4. Measurement in Education and Psychology (1992)
 5. Evaluation in Schools (3rd ed 1986)
 6. Psychological Foundations of Education (revised ed. 1985)
 7. Psychological Testing and Statistical Methods (1987)
- दांडेकर वा.ना. - शैक्षणिक मूल्यमापन.
कदम चौधरी - शैक्षणिक मूल्यमापन.

COURSE 106
**INSTRUCTIONAL DESIGN AND INTEGRATION OF ICT IN TEACHING-
 LEARNING**

Objectives: To enable the student teacher to:

1. understand the Concept, need and importance of ICT.
2. prepare their students to become ICT skilled teachers.
3. get acquainted with ICT supported teaching learning strategies.
4. prepare the students to select to appropriate ICT facilities.
5. get acquainted with the new trends in ICT.
6. comprehend the meaning of system and instructional systems.
7. realize the importance of instructional systems.
8. comprehend and use the different instructional models.

UNIT 1:- ICT IN EDUCATION

1 CREDIT

- 1.1 Concept, Need and Importance of ICT in Education.
- 1.2 Paradigm Shift due to I C T from 'Teaching' to 'Learning'.
 - A] Curriculum B] Methods of Teaching C] Role of Teacher
 - D] Classroom Environment E] Evaluation procedure
 - F] Education Management
- 1.3 Challenges and Barrier to integration of I C T in Indian schools Classrooms
- 1.4 ICT Skilled Teacher – ICT Skills and Qualities of ICT teacher
- 1.5 Safe use of ICT – Virus management, Net safety, Nettiquettes, Legal and Ethical Issues

UNIT2:- ICT SUPPORTED TEACHING LEARNING STRATEGIES 1 CREDIT

- 2.1. E-Learning and Web base learning–concept, features and educational application
- 2.2. Co-operative and Collaborative Learning –concept, features and educational application
- 2.3. Project based Learning –concept, features and educational application
- 2.4. Communication Tools - Mobile, e-mail, chat Online Conferencing, Blog, Wiki, Internet forum, News Groups.
- 2.5. Social Networking as an effective Communication Tool.

UNIT 3:- NEW TRENDS IN ICT

1 CREDIT

- 3.1. Virtual Classroom - concept, elements, advantages and limitations
- 3.2. Smart class room – concept, elements, advantages and limitations
- 3.3. Edusat - concept, elements, advantages and limitations
- 3.4 Online Learning Resources: e- Library, Websites, Apps, and Web 2.0 Technology.

UNIT 4:- INSTRUCTIONAL SYSTEMS

1 CREDIT

- 4.1 Concept of ISD : meaning and Nature Principles and Assumptions
- 4.2 Need, importance and Advantages of ISD.
- 4.3 Difference between Education, Training and Instruction.
- 4.4 Stages of Development of ISD.
- 4.5 Components of an instructional system design.

UNIT – 5 : INSTRUCTIONAL STRATEGIES AND MODELS

1 CREDIT

- 5.1 Instructional strategies.
 - A] Self Instruction B] Programme instruction
 - C] Computer Assisted Instruction
- 5.2 Models of Instructional system.
 - A] M LM (Mastery Learning Model)
 - B] Synectic
- 5.3 Developing Self instructional material.
 - 1) Printed self instructional Material.
 - 2) Computer Assisted Programme.
 - 3) Online Learning.
- 5.4 Process of validation of instructional Material / Program
 - A] Individual testing
 - B] Group testing
 - C] Field testing
 - D] Master validation
- 5.5 Models of evaluation- Educational Decisions Model (CIPP Model)

Practical:

To develop self instruction / Program instruction / computer assisted instruction material for any unit of any school subject of your choice.

References:

1. Assessment and Evaluations - P.G. Pnog
2. Instructional system Design - Instructional Technology V.K. Rao
3. Computer fundamentals - Arora Bansal
4. Information and communication - Kishore, Chavan
5. Information Technology - Dyne, Nandkishore
6. Crumlish Christian - ABC o internet
7. Fun of computer - Singh and Sukhvir
8. ICT strategies for school - Mohenty Laxman