

**Programme Project Report (PPR)**  
**for**  
**Distance Learning Programme under School of Distance Education**

**Post Graduate Diploma in Science of Teaching ( PGDST)**

**Course Co-ordinator: Dr. Sajna Jaleel**

*Academic support by*

**School of Pedagogical Sciences (SPS)**

**Mahatma Gandhi University**

**Kottayam, Kerala**

## **POST GRADUATE DIPLOMA IN SCIENCE OF TEACHING**

**(Distance Learning Programme - Certificate Programme)**

### **Programme Project Report**

Mahatma Gandhi University started the School of Distance Education in 1989 with the vision of providing the opportunity for quality education to all realms of society. Since the beginning, thousands of students have availed themselves of this opportunity for higher education to a great extent throughout Kerala. Many students outside the State have also benefited from this. But after the new directions of the UGC in 2014, the University had stopped all the Off-Campus Centres of the School of Distance Education both inside and outside the State.

Now it is the new endeavour of the School to revamp its functioning by offering different types of Diploma and Certificate programmes very relevant to contemporary society, in addition to the conventional Graduate and Post Graduate programmes. This is being done with the academic and infrastructural support of the eminent Schools and Interdisciplinary Interuniversity Centres of the University. All these Schools/ Centres have already conducted similar Programmes or Post Graduate Programmes in the same area. This Post Graduate Diploma programme has been designed by the School of Pedagogical Sciences and is to be conducted by the School of Distance Education with the academic support of the School.

The School of Pedagogical Sciences under Mahatma Gandhi University, Kottayam started functioning in 1992 with the vision of transforming teacher education into a vocation that is solidly grounded in research. It is expected to meet the challenges facing education by attaining / establishing and maintaining high quality education and excellence in today's educational institutions.

**a) Programmes' mission and objectives**

To create professionally trained teachers who are in high demand in the global Scenario

The objectives of the course are,

- To provide knowledge , experience and guidance to teachers
- To impart an adequate knowledge in the art and science of teaching
- To equip the prospective teachers with necessary pedagogic skills
- To develop proper attitude towards teaching
- To enable the teachers to make use of instructional facilities
- To enable the teachers to understand the individual differences of the learner and teach better

**b) Relevance of the programme with HEI's Mission and goals**

The course is mainly focussing on teachers /aspiring teachers who have not got a professional training in teaching especially teachers working in Arts and Science colleges, Engineering and Medical field /law. There is a need for essential knowledge on Science of Teaching for all those who aspire to become teachers/ are chosen their profession as teachers. This programme is meant to those who are complete their professional courses(Engineering/Medicine/etc)/Master's degree (M. Sc/M.A/etc) and wish to become teachers in their respective field. The programme is offered through open and distance learning mode which will be easier for those who are working. Moreover, there is a necessity for the training to those who aspire to working abroad as teachers in HEI's. The course equip everyone to be a '21st century teacher'.

**c) Nature of prospective target group of learners**

The course is targeting on teachers who were working and those who wish to work in the teaching sector after completing their Professional courses and Masters Degree. As the course is offered in a distance mode, it will be easier for women, people working abroad, minorities etc .

**d) Appropriateness of the programme to be conducted in open and distance learning mode to acquire specific skills and competence**

Quality of an educational institution depends mainly on the quality of its teachers. It is well said that training makes man perfect. So training of in-service teachers and pre-service teachers in all sectors (School, Degree, post graduation and professional)are equally demanding.

**e) Instructional Design**

The course is 2 semester, 32 credits programme offered through distance mode. Print Audio , Video, Computer Aided and e-learning, e-contents are the different medias of communication . There are adequate contact classes and the assessment involves both internal as well as external components. Each student has to submit 8 assignments. Each student has to pass through 5 discussion, 5 demonstration and 10 teaching practice sessions. Each student

has to submit one e-content in their area of specialisation. Each student has to conduct a research work and submit a Dissertation based on their research work.

**Course Summary of PG DIPLOMA IN SCIENCE OF TEACHING**

<b>Course Co-ordinator: Dr. Sajna Jaleel, Assistant Professor, School of Pedagogical Sciences, Mahatma Gandhi University,</b>						
<b>Course Duration:12 months</b>						
<b>Semester I</b>						
Course Code	Course Name	Credits	Contact classes (Hours)	Internal Marks	External Marks	Total Marks
SDE-PS-1	Introduction to Art and Science of Teaching	4	12	20	80	100
SDE-PS-2	Components of Teaching	4	12	20	80	100
SDE-PS-3	Educational Technology	4	12	20	80	100
SDE-PS-4	Discussion , Demonstration	2	30	50		100
	Teaching Practice	2	60	50		
<b>Total</b>		16				400
<b>Semester II</b>						
SDE-PS-5	Instructional Design and e-contents in teaching	4	12	20	80	100
SDE-PS-6	Introduction to Educational Research and Statistics	4	12	20	80	100
SDE-PS-7	Educational Evaluation	4	12	20	80	100
SDE-PS-8	Research work and Dissertation	4				100
<b>Total</b>		16	162			400

**Semester wise credits and marks**

<b>Semester</b>	<b>Credits</b>	<b>Marks</b>
<b>Semester I</b>	<b>16</b>	<b>400</b>
<b>Semester II</b>	<b>16</b>	<b>400</b>
<b>Total</b>	<b>32</b>	<b>800</b>

**Scheme of Evaluation**

The academic growth of the student is assessed through internal evaluation and end semester examination.

**f) Procedure for Admissions , Curriculum transaction and Evaluation**

Candidates (graduates, postgraduates) and those who were in the field of teaching are eligible for admission irrespective of age. Programme delivery will be through distance learning along with the practical works .The study materials will be delivered through online and print forms. Assignments and reports can be submitted online. The candidate will be graded based on the indirect grading pattern.

Admission to the programme will be done by the University through a common procedure for all the programmes under the School of Distance Education. Fee structure will be decided by the University. The School will prepare an academic calendar/activity planner and will be circulated among all the learners at the time of admission itself. The academic calendar will include all the significant activities, important dates, schedule of submission of assignments, schedule of contact classes, schedule of examinations, etc.

Evaluation of the courses shall be done by the faculty themselves on the basis of internal assessment and end semester examinations. 20% of the marks will be decided by the internal evaluations and the remaining 80% by the end semester examinations which will be done by the University. The performance of a student in each course is evaluated in terms of percentage of marks with a provision for conversion to grade points.

Each student shall be required to do one Assignment/Book review/Debate/Seminar/Presentation of case study for each course. Assignments/book review after valuation shall be returned to the students. The teacher shall define the expected quality of the above in terms of structure, content, presentation and the like, and inform the same to the students.

**Grading System** will be followed for the evaluation on a ten point scale. The details of the grading system are given in the following Table.

**Percentage Equivalence of Grade:**

<b>Range of % of Marks</b>	<b>Grade Letter</b>	<b>Performance</b>	<b>Grade Point</b>
95 - ≤ 100	O	Outstanding	10
85 - < 95	A plus	Excellent	9
75 - < 85	A only	Very Good	8
65 - < 75	B plus	Good	7
55 - < 65	B only	Above Average	6
45 - < 55	C	Average	5
40 - < 45	P	Pass	4

< 40	F	Fail	0
Absent	Ab	Absent	0

'P' grade is required for a minimum pass in a course. The minimum GPA required for a pass in the Certificate programme is 4.

**Calculation of Grade Point Average (GPA) :**

**Credit Points for the Course** = (No. of Credits assigned for the course x Grade Point secured for that course).

**GPA** indicates the performance of a student in the programme. GPA is based on the total **credit points** earned by a student in all the courses divided by the total number of credits assigned to the courses required in the programme.

Note: GPA is computed only if the candidate passes in all the required courses (gets a minimum required grade for a pass in all the required courses as per the curriculum).

$$\text{GPA} = \frac{\text{Total credit points earned by the student from all the required courses of the programme}}{\text{Total credits of all courses required in the programme}}$$

This formula shall be printed on the Grade Card issued to the student with a note that it could be used to convert the grades into mark-percentages. (The details of the grading system as indicated above shall also be printed on the Grade Card).

**Conversion of GPA to Grade**

GPA	Grade
10	O
9.0 - < 10	A plus
8.0 - < 9	A only
7.0 - < 8	B plus
6.0 - < 7	B only
5.0 - < 6	C
4.0 - < 5	P
< 4	F
Absent	Ab

**Conversion of GPA to percentage**

$$\text{Equivalent Percentage} = (\text{GPA obtained}) \times 10$$

**g) Requirement of the Laboratory, Support and Library resources**

The department offers a vast frontier of resources including a net connected library, fully equipped computer lab, Psychological lab and Technological lab to the learners.

## **Details of Laboratory support required for the programme**

The School offers a vast repertoire of resources including a net connected library, fully equipped computer lab, psychological lab and technological lab to the learners.

The computing facility available in the campus as well as the regional centers can also be used for this purpose. Some external computing facilities may be hired based on the number of enrolment. Mahatma Gandhi University Library and Information System consists of University Library, libraries of the Schools and 4 study centre Libraries. The University Library was established in 1989. The University Library which is situated in the main campus occupies purpose-built accommodation, and provides a variety of facilities and has a user-friendly environment. These include individual work spaces, room for group study and teaching, audio-visual access and online information retrieval system. The building of the University Library is 2000 sq.m in area consisting of the cellar, the ground floor and the first floor.

Academic as well as public users are given the facility to use the library. Special category membership is provided to journalists. The library is providing service from 8 am to 8 pm in three shift timings for its staff. The library functions on an average of 345 days in a year. The libraries of teaching departments are open during working hours of the Schools. Reading space is provided in all the three floors housing the various sections of the library. The library provides reading facility to the visually impaired users too. For this, an electronic lab custom made for visually and physically challenged users has been set up during 2016.

The University Library has a Library Advisory Committee. It is an 18 member committee with Vice-Chancellor as Chairman and University Librarian as Convener.

The library has a collection of 59,000 books, 232 journals, 2,135 Ph.D. theses and has access to 15000+ e-journals under E-Shodh Sindhu. The activities of the Library are comprehensively automated using open source library management software KOHA. OPAC, Journal Article Index, By monthly Bibliography compilation and Literature Search Service are also available

The library is a member of the INFLIBNET Centre, Ahmedabad as well as DELNET (Developing Library Network). As a member of these networks, the library provides access to the resources of other major libraries in the country. In addition to the access to UGC INFONET consortium, it has access to major online databases, such as EBSCO, ProQuest dissertations and theses, Oxford Scholarship Online, IEEE All Society Periodicals Package etc. Mahatma Gandhi University had won the State IT Award during the year 2009 in the e-learning category for its university online theses digital library. The various department libraries have a good collection of subject specific books and journals.

<b>A. MAHATMA GANDHI UNIVERSITY LIBRARY</b>	
<b>Category</b>	<b>No.</b>
Books	59000

Journals	232
Bound Journals	7500
Ph.D Theses	2135
E-Journals (in UGC-Infonet, renamed as E-ShodhSindhu)	15000
Online databases (in UGC Infonet)	11
Online Archives subscribed	185 Titles
Online databases subscribed	4
E-books	7338
DVDs: Educational Videos	293

<b>B</b>	<b>Name of School/Centre</b>	<b>Total No. of books</b>
	School of Pedagogical Sciences	6109

**h) Cost estimate of the programme and the provisions:**

Budget estimate (for 100 students)

S.No.	Item	Amount (Rs. in Lakhs)
1.	Manpower	4
2.	Study material	3.5
3.	Library/Laboratory	1.5
4.	Internal assessment	1
5.	End semester examination	1.5
	<b>Total</b>	<b>11.5</b>

**Total Programme fee: Rs.12000/-**

**i) Quality assurance mechanism and expected programme outcomes:**

The quality of the programme will be ensured through strict monitoring by an executive committee including the Coordinator of the programme, the subject experts, Head of the School of Distance Education, and Head of the School of Pedagogical Sciences. The Co-ordinator of the programme shall ensure the regular student feedback of courses, teachers and programme in the prescribed format towards the end of the semester and the same shall be analysed to draw conclusions for effecting improvement. Periodical review meetings on the programme efficacy will be held in which the remarks of teachers on curriculum, syllabi and methods of teaching and evaluation will be given due importance. Moreover, the progress and the quality of the programme will be monitored by the Internal Quality assurance Cell of the University from the outcome and feedback of the learners as well as the proper documentation maintained in the Centre.

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## *Detailed Syllabi*

### SEMESTER I COMMON CORE COURSE

#### SDE-PS-1: INTRODUCTION TO ART AND SCIENCE OF TEACHING COURSE OUTLINE

Contact Hours: 120 hrs

Maximum marks :100  
(External-80,Internal-20)

Duration of Exam:3 hrs

Number of Credits:4

#### Courses Objectives

On completion of this course, the student will be able

1. to understand the concept of Pedagogy(Science of Teaching) and its various determinants.
2. to understand the implications of philosophical, Psychological and Sociological perspectives
3. to evaluate relevance of different Teaching Theories
4. to explore the process of curriculum development
5. to understand curriculum transaction in relation to its requirements, material and process

#### MODE OF TRANSACTION

Lecture cum discussion, reading, print materials, multimedia/e-contents, counselling sessions, Assignments

#### UNIT I- PEDAGOGY:SCIENCE OF TEACHING (20 hrs)

Concept of Pedagogy-Meaning, Scope and Relevance

Theoretical Bases of Pedagogy-Philosophical, Psychological and Sociological.

Pedagogy and Education-Education as an Interactive Process - Bi-polar-Tri-polar and Multipolar Process

Platforms of Pedagogy-Formal, Informal and Non- formal Institutions

Pedagogy and its relationship with other Disciplines.

Pre-service and In-service Teacher Education-Qualities and characteristics of effective Teacher

#### UNIT II-PHILOSOPHICAL PERSPECTIVES (20 Hrs)

Fields of Philosophical enquiry-metaphysics-meaning, area of operation.

Epistemology-Meaning and scope of knowledge, ways of knowing, types of knowledge.

Axiology-meaning and scope, place of ethics, aesthetics and logic in education.

Teacher and Educational Philosophy.

#### UNITIII-PSYCHOLOGICAL PERSPECTIVES (20 Hrs)

Educational Psychology: Application in the theory and Practice of Education.

Scope of Educational Psychology in terms of Knowledge centeredness, Learner centeredness, teacher centeredness, Environment centeredness and Assessment centeredness.

Learning and Instruction-Learning Styles, Teaching Styles, Transfer of Learning, Motivation.

Intelligence-Theories of Intelligence, Multiple Intelligence, Metacognition, creativity

#### UNIT IV- SOCIOLOGICAL PERSPECTIVES

(20 Hrs)

Relationship between Education and Sociology

Education as social System-Relationship between Education and other subsystems: Economy, Polity, Culture and religion-Role of Teacher

Socialisation and Social Change-Impact of Education in Modernising Indian Society

#### UNIT V- TEACHING THEORIES

(10 Hrs)

Mental-discipline theories- Naturalistic theories (Johann Heinrich Pestalozzi, Jean-Jacques Rousseau), Apperception theories(John Locke, Johann Friedrich Herbart, Jean Piaget,) Conditioning and behaviourist theories(Thorndike, Pavlov, Skinner and Hull), Cognitive theories(Tolman, Ausubel), Constructivist perspectives of Learning(Vygotsky, Bruner), Information Processing(Sternberg and Kosslyn, Donald Norman)-Gagne's hierarchy of learning

#### UNIT VI- CURRICULUM, RESEARCH METHODS IN PEDAGOGY(20 Hrs)

Curriculum-Components of Curriculum-curriculum Development-Models of curriculum Development(Technical Scientific and Non-Technical Model)-Approaches to Curriculum Development (experienced and Activity oriented curriculum, Humanistic Curriculum, Social Problems and Reconstructionist curriculum)-curriculum transaction-Curricular material-Teacher Guide-Curriculum Planning- Curriculum Evaluation

#### REFERENCE

1. Bourgonje, P. & tromp, R.(2011).Quality Educator: An International Study of Teacher Competencies and Standards. Education International, Oxfam Novib.
2. Bruner, J. (1975). The Process of Education. London: Harward University Press.
3. Dash, B.N.(2003). Principles of Education .New Delhi: Neelkamal Publications.
4. Palmer, J.A.(2001).Fifty Modern Thinkers on Education: From Piaget to the Present Day. London: Routledge.
5. Peters, R. S. (1975) The Philosophy of Education. London: Oxford University Press
6. Baron, R.A,& Misra, G.(2014.).Psychology(5th ed.).USA: Pearson.
7. Bruner, J.S.(1986).Actual minds, possible worlds. Cambridge: Harward University Press
8. Woolfolk, A.(2005).Educational Psychology(9th ed.).New Delhi:Pearson Education Pvt. Ltd.
9. Coffey, A.(2001). Education and Social Change. Open University press.
10. Peters, R.S.(1967). The Concept of Education. New York: Humanities Press.

**SEMESTER I**  
**COMMON CORE COURSE**  
**SDE-PS-2: COMPONENTS OF TEACHING**

Contact Hours: 120 hrs

Maximum marks :100  
(External-80,Internal-20)

Duration of Exam:3 hrs

Number of Credits:4

Courses Objectives

On completion of this course, the student will be able

1. to understand the concept of Aims and Objectives
2. to understand the implications Blooms Taxonomy
3. to understand the process of Content Analysis
4. to understand and practice Maxims of Teaching
5. to understand and apply instructional Planning in regular teaching

**MODE OF TRANSACTION**

Lecture cum discussion, reading, print materials, multimedia/e-contents, counselling sessions, Assignments

**UNIT I- AIMS AND OBJECTIVES**

(20 hrs)

Concept of Aim

Concept of Objective

Difference between Aims and Objectives

Objective Based Instruction

**UNIT II- BLOOMS TAXONOMY**

(20 hrs)

Blooms Taxonomy

Cognitive Domain (Knowledge, Understanding, Application, Analysis, Evaluation and Create)

Affective Domain(Receiving, Responding, Valuing, Organizing)

Psychomotor Domain(Perception, Set, Guided response, Mechanism, Complex Overt Response, Adaptation, Origination)

Instructional Objectives, Stating Instructional Objectives

Specifications of Objectives

Interrelationship of Objective, Learning Experience and Evaluation

**UNIT III- CONTENT ANALYSIS**

(20 hrs)

Content Analysis

Basic Component of a content

Terms- Facts -Concepts - Principles- Process- Method-Definition-Symbols-Formulae-Theory-Law-Generalisation.

**UNIT IV- CONTENT ANALYSIS**

(20 hrs)

Maxims of Teaching

Known to Unknown

Simple to Complex:

Analysis to synthesis  
Particular to General:  
Empirical to Rational.  
Induction to Deduction  
Psychological to Logical  
Actual to Representative.  
Near to Afar.

UNIT V- PLANNING OF INSTRUCTION (20 hrs)

Year Plan

Unit Plan

Lesson Plan

Steps in Lesson Planning

UNIT VI- PRINCIPLES AND APPROCHES IN TEACHING (20 hrs)

Concretising abstract Ideas- use of aids, activities and illustrations., Questioning, Motivation, Gradation, Correlation, Mastery Learning approach, Team Teaching, Discussion- Collaborative learning, Peer Tutoring, Peer Learning, Homogeneous grouping, Supervised Study, Drill Work.

Deep approach and surface approach to learning

Methods of Teaching

REFERENCE

1. Bloom, B.S.(1956).Taxonomy of Educational Objectives. New York: Makay Co, inc.
2. Bruner, J.S.(1963). The Process of Education. New York: Vintage Books.
3. Gagne, M.R.(1965). Conditions of Learning. New York: Holt Rinehast and Winston
4. Loughran, J.(2006). Developing a Pedagogy of Teacher Education: Understanding Teaching and Learning about Teaching. New York: Routledge.
5. Dececo, J.P.(1977). The Psychology of Learning and instruction. Delhi: Prentice Hall.

## SEMESTER I

### COMMON CORE COURSE

#### SDE-PS-3: EDUCATIONAL TECHNOLOGY

Contact Hours: 120 hrs

Maximum marks :100

(External-80,Internal-20)

Duration of Exam:3 hrs

Number of Credits:4

Courses Objectives

On completion of this course, the student will be able

1. to understand the concept of Educational Technology
2. to understand the implications Communication Technology
3. to understand and Practice different Teaching Skills and Micro teaching
4. to understand and apply different teaching strategies.

MODE OF TRANSACTION

Lecture cum discussion, reading, print materials, multimedia/e-contents, counselling sessions, Assignments

UNIT I- INTRODUCTION TO EDUCATIONAL TECHNOLOGY (20 hrs)

Concept of Educational Technology-Product Vs Process

Forms of Educational Technology-Teaching Technology, Instructional Technology, behaviour Technology

Transactional usage of Educational Technology-complementary, supplementary, stand alone(independent)

Systems Approach to education and its components

Scope of Educational Technology in Evaluation.

UNIT II-COMMUNICATION TECHNOLOGY (20 hrs)

Concept, Nature, component , Types of Communication

Communication and Instructional System

Communication-modes, Barriers and Process of Communication.

Teaching and communication: Face-to-face, Distance and other alternative modes.

Observation Schedules of Interaction-FIACS, VICS,OSCAR

UNIT III-AUDIO-VISUAL AIDS (10 hrs)

Audio-visual aids

Different types of Audiovisual Aids-

The Importance and Use of Audio -Visual Aids in Teaching and Learning.

Dale's Cone of Experience.

UNIT IV-MICRO-TEACHING (40 hrs)

Underlying principles of Micro Teaching.

Procedure of Micro Teaching./micro teaching cycle.

Phases of Micro Teaching - Knowledge Acquisition, Skill Acquisition, Transferring phase.

Benefits or Advantages of Micro Teaching, Limitations or Disadvantages of Micro Teaching.

Teaching Skills

Link Practice-Macro- Teaching.

Simulation in Teaching

UNIT V TEACHING STRATEGIES (20 hrs)

Teaching Strategies-Meaning, Nature, Functions and Types,

Models of Teaching-Elements, Family of Models

Individualized Instruction-Principles, Programmed Instruction and types -Linear and branching

Audio Tutorial Approach, Learning Kits, Keller Plan

Memory, Understanding and reflective levels of Teaching

UNIT VI NEW HORIZONS OF EDUCATIONAL TECHNOLOGY (10 hrs)

Recent innovations in the area of ET.

Recent Trends of research in Educational Technology

Future trends in digital technology and learning applications.

Course Designing-Steps and approach

REFERENCE

1. Bansal, S.K.(2002). Fundamentals of information Technology. New Delhi: AHP Publishing Corporation.

2. Kumar, K.L.(2000).Educational Technology. New Delhi: New Age International.
3. Roblyer, H.D.,Edward,J. and Havriluk(1997).Integrating Educational Technology into teaching. New York:Merrill.
4. Sharma,R.A.(1996).Advanced Educational Technology. Meerut: Eagle Books International.
5. Sampath, K., Paneerselvam, A. and Santhanam, S.(1990).Introduction to Educational Technology. New Delhi: Sterling Publishers Private Limited

**SEMESTER II**  
**COMMON CORE COURSE**  
**SDE-PS-5: INSTRUCTIONAL DESIGN AND E-CONTENTS IN TEACHING**

Contact Hours: 120 hrs

Maximum marks :100  
 (External-80,Internal-20)

Duration of Exam:3 hrs

Number of Credits:4

Courses Objectives

On completion of this course, the student will be able

1. to understand the concept of Instructional Design
2. to understand different competencies and skills in instructional design
3. to understand the modes and models of instructional design
4. to develop an understanding of role of teacher as an effective designer

**MODE OF TRANSACTION**

Lecture cum discussion, reading, print materials, multimedia/e-contents, counselling sessions, Assignments

**UNIT I-INSTRUCTIONAL DESIGN (20 hrs)**

Gagne's influence on Instructional Design Theories.

Learning Material Design

Learning Environment Design

**UNIT II- DESIGNING INSTRUCTIONAL MATERIALS (20 hrs)**

Characteristics of teaching -learning materials

Principles of Instructional Design

Selecting and developing teaching - learning materials

Design outcome-based assessments

**UNIT III- INSTRUCTIONAL DESIGN SKILLS AND COMPETENCIES(20 hrs)**

Planning a design

Developing learning materials

Outcome based assessments

**UNIT IV- MODES AND MODELS OF INSTRUCTIONAL DESIGN (20 hrs)**

Modes of Instructional Design-Self regulated learning, Independent learning, programmed learning, collaborative learning, participatory learning, discovery learning.

Models of Instructional Design-ADDIE,ASSURE,OAR

UNIT V- DESIGNING AND DEVELOPING E-CONTENTS (20 hrs)

Designing e-content-web design, software design, communication design and information design.

communication tools for e-learning  
synchronous and asynchronous e-learning  
Interactive e-lesson  
Blended learning

UNIT VI- TEACHING AS DESIGN (20 hrs)

Interpreting Teaching as Design  
Designing quality materials for teacher education  
Pedagogical Design Capacity(PDC)

REFERENCE

1. Eggen, P.D., Donald, P.K. and Robert J.H.(1979). Strategies for Teachers. Englewood cliffs: Printice Hall
2. Bruce, J. and Marsha, W.(1985). Models of Teaching. New Delhi: Printice Hall of India Pvt. Ltd.
3. Gunter, M.A. Estes, T.H. and Schwah, J.(1990). Instruction. A Models Approach.(3rd Ed.).USA: Allyn and Bacon
4. Dick, W.& Carey, L. (1996).The Systematic Design of Instruction(4th Ed.).New York: Haper Collins College Publishers
5. Smith, P.L. & Ragan, T.J. (2004). Instructional Design (3rd Ed.)Danvers, MA: John Wiley & Sons.

SEMESTER II

COMMON CORE COURSE

SDE-PS-6: INTRODUCTION TO EDUCATIONAL RESEARCH AND STATISTICS

Contact Hours: 120 hrs

Maximum marks :100

(External-80,Internal-20)

Duration of Exam:3 hrs

Number of Credits:4

Courses Objectives

On completion of this course, the student will be able

1. to understand the concept of Educational Research and statistics
2. to develop skill in selecting a relevant research problem
3. to develop the ability to critically analyse and carry out research studies
4. to apprehend the relevance of statistics in data analysis for educational research

MODE OF TRANSACTION

Lecture cum discussion, reading, print materials, multimedia/e-contents, counselling sessions, Assignments

UNIT I-EDUCATIONAL RESEARCH (20 hrs)

Historical Development of Educational Research  
Research as a scientific process

Characteristics of research .

Classification of Research Based on Purpose(Basic, Applied, Action),Method(Historical, Descriptive, Experimental),Data(Qualitative, Quantitative)

UNIT II- RESEARCH PROBLEMS AND VARIABLES (20 hrs)

Research Problem

Formulation of a research problem, statement on the basis of research questions

Definition of key terms/operational Definition

concept, nature and types of variables-independent, dependent, extraneous, confounding, intervening

Common errors in selecting and stating a research problem

Characteristics of a good research problem

Justification and delimitation of the problem

UNIT III- REVIEW OF RELATED LITERATURE (20 hrs)

Purpose and need of review of related literature

Sources-literary resources and electronic resources

Critical Analysis of related literature

UNIT IV- RESEARCH DESIGN (20 hrs)

Hypothesis, sources of hypothesis, characteristics of a good hypothesis.

Types of hypothesis-Directional, Non-directional, Declarative, null and alternative hypothesis

Research Design-Historical-Experimental-survey, causal comparative, correlation, case study, longitudinal, cross sectional, Ex-post facto

Sampling-sample size, Methods of sampling, sampling techniques-errors in sampling tools and techniques of research

Analysis and Interpretation of Data

Research proposal and research report

UNIT V- STATISTICS FOR EDUCATIONAL RESEARCH (20 hrs)

Statistics-descriptive and inferential statistics- scales of measurement -Nature of educational data

Descriptive Statistics-Need and significance of descriptive statistics in educational research-measure of central tendency-variability- relative position-correlation-regression equation and prediction-normal Probability curve

UNIT VI- INFERENCE STATISTICS (20 hrs)

Parametric and Non- parametric tests

parametric tests-Tests of Significance-Analysis of variance-Analysis of Co-variance

Non parametric tests-concept, chi-square test

Computer Analysis of Data

REFERENCE

1. Best, J.W. & Kahn, J.V,(2006). Research in Education.(10th ed.)New Delhi: PHI Learning Private Limited.
2. Cohen,L. &Manion,L.(1994). Research Methods in Education.(4th ed.).London:Routledge.
3. Garrett, H. E. (1966).Statistics in Psychology and Education(6th ed.).Bombay: Vakils, Feffer, and Simons Ltd.



4. Mc Burney, H.D.(2001).Research Methods. Australia: Wordsworth.
5. Good, C.V.(2006). How to do Research in Education. New Delhi: Cosmo Publications.

**SEMESTER II**  
**COMMON CORE COURSE**  
**SDE-PS-7: Educational Evaluation**

Contact Hours: 120 hrs

Maximum marks :100  
 (External-80,Internal-20)

Duration of Exam:3 hrs

Number of Credits:4

**Courses Objectives**

On completion of this course, the student will be able

1. to understand the concept of measurement and Evaluation
2. to understand different Types of Evaluation
3. to understand the Tools and Techniques of Measurement and Evaluation
4. to develop an understanding of Modern trends in evaluation

**MODE OF TRANSACTION**

Lecture cum discussion, reading, print materials, multimedia/e-contents, counselling sessions, Assignments

**UNIT I-MEASUREMENT AND EVALUATION (20 hrs)**

Concept of measurement and Evaluation  
 Need and Scope of Measurement and evaluation

**UNIT II- TYPES OF EVALUATION (20 hrs)**

Formative Vs summative  
 Diagnostic Vs Prognostic,  
 Criterion referenced Vs Norm referenced

**UNIT III- TOOLS AND TECHNIQUES OF MEASUREMENT AND EVALUATION (20 hrs)**

Tools of Evaluation  
 Techniques of Evaluation

**UNIT IV- DEVELOPMENT OF SCHOLASTIC INSTRUMENTS (20 hrs) Developing Achievement Tests**

Classification of Tests

**UNIT V- CONSTRUCTION AND STANDARDISATION OF EVALUATION INSTRUMENTS (20 hrs)**

Characteristics of good evaluating instruments  
 Steps in the construction and standardisation of tests and scales)  
 Steps in Administering tests to groups.

**UNIT V- MODERN TRENDS IN EVALUATION (20 hrs)**

Grading  
 Semester system  
 Continuous internal Assessment  
 Question bank

Continuous and comprehensive evaluation

open book examination

On line examination

#### REFERENCE

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2. Ebel, R.& Frisbie, D.(2003).Essentials of Educational measurements. New Delhi: Prentice Hall of India Pvt. Ltd.
3. Kubiszyn, T. & Borich, G.(1990). Educational Testing and Measurement..USA: Harper Collins publishers.
4. Soman, K.(1996).Educational Measurement and Evaluation .Calicut: Gautam Publications.
5. Stufflebeam, D. L. &Shinkfield, A.J.(2007).Evaluation theory, models and applications. San Francisco : Jossey-Bass