SEMESTER – II

Course Code: BD2MA	Credits: 5

PEDAGOGY OF MATHEMATICS – II

COURSE OBJECTIVES

CO1: Understand the concept of critical Pedagogy.

CO2: Learn the various teaching Models.

CO3: Comprehend the Activity Based Instruction and Group Controlled Instruction.

CO4: Recognise the various Educational Resources for teaching and learning Mathematics.

CO5: Understand the differences between Assessment and Evaluation

UNIT -1: PEDAGOGICAL ANALYSIS

Paradigm shift from pedagogy to Andragogy to Heutagogy – Concept and stages - Critical Pedagogy: Meaning, Foster independent thinking through critical pedagogy, Need and its implications in Teacher Education. Interaction Analysis: Flanders' Interaction analysis, Galloway's system of interaction analysis (Recording of Classroom Events, Construction and Interpretation of Interaction Matrix).

UNIT-II: TEACHING MODELS

Bloom's Mastery Learning, Skinner's Operant Training, Bruner's Concept attainment, Ausubel's Advance Organizer, Glaser's Basic Teaching (Classroom Meeting), Byron Massials and Benjamin cox's social inquiry, Carl Roger's Non-directive and William Gordon's Synectics models.

UNIT-III: ACTIVITY-BASED AND GROUP CONTROLLED INSTRUCTION

Activity Based Instruction: Concept, Classification - Role Play, Simulation, Incident method, Case Study method, Gaming and prioritisation exercises. Group Controlled Instruction: Concept, Definition and Importance of Group Controlled Instruction – Types of Group Controlled Instruction: Group Interactive sessions, Co-operative Learning methods, Group investigation, Group Projects.

UNIT-IV RESOURCE BASED LEARNING

Defining Educational Resource and Resource Centre (Area), Resource Bank, Resource Island, Resource Peninsula – Types of Resources, Users and their Role in a resource centre: Teacher, Learners and Technical Staff.

UNIT – V: ASSESSMENT IN PEDAGOGY OF MATHEMATICS

Criteria for Teacher Evaluation - Concept of Test, Measurement and Evaluation - Differentiate between Assessment and Evaluation – Standardization of Test, Principles and steps involved in the construction of achievement test – Blue Print and Question Pattern - Feedback Devices: Meaning, Types, Criteria, Guidance as a Feedback Devices: Assessment of Portfolios, Reflective Journal, Field Engagement using Rubrics, Competency Based Evaluation.

SUGGESTED ACTIVITIES

1. Teacher talk/ Invited lecture on Paradigm shift from pedagogy to Andragogy to Heutagogy.
2. Students' seminar on types of Group- Controlled Instruction.
3. Preparation and presentation of a report on various Teaching Models.
4. Explain the role of Educational Resource centre in teaching Mathematics.
5. Construct an achievement test with blue print and question pattern.

TEXTBOOKS

1. Edwards, Brian (2009) Libraries and Learning Resource Centres. Oxford, UK: Architectural Press.
2. Shirley R.Steinberrg&Barry down.(2020). Handbook of Critical Pedagogies.Sage Publication Ltd.
3. Marshal Weil et al. (1972). Models of teaching. APH Publishing Corporation. New Delhi.
4. Cecil R.Reynolds.(2009). Measurement and Assesment in Education.Pearson Publication.
5. ArloKempf.(2016).The Pedagogy of StandardisedTests.PalgraveMacmilan.New york.
6. Barbara Bassot.(2013). The Reflective Journal.Palgravemacmilan.Newyork.
7. Bloom, B. S., et al. (1956). Taxonomy of educational objectives. Handbook I: cognitive domain. New York: McKay.

SUPPLEMENTARY READINGS

1 NCERT (2012). Pedagogy of Mathematics, Textbook for Two Year B.Ed Course, New Delhi: NCERT.

2 Alomran, Hamad Ibrahim; (2007) Learning Resource Centres in Saudi Arabia: A study to the Reality with A plan for an Ideal center. Riyadh: Riyadh Girls University

3 Joyce, B. R. (1975). The models of teaching community: What have we learned? Texas Tech Journal of Education, 22, 95—106.

4 Bloom, B. S. (1984). The search for methods of group instruction as effective as one-to-one tutoring. Educational Leadership, 41, 4—17.

E – RESOURCES

1. http://assets.cengage.com/pdf/prs_clark-developing-critical-thinking.pdf
2. http://static.pseupdate.mior.ca.s3.amazonaws.com/media/links/Flanders%20Interaction%20Analysis%20Technique.pdf
3. https://www.researchgate.net/publication/331132424_Activity_Based_Instruction_ABI_for_Motivating_the_Children_in_Mathematics_Learning
4. https://www.researchgate.net/publication/333106881_verbal_interaction_in_english_classroom_using_flanders_interaction_analysis_categories_system_fiacs
5. http://egyankosh.ac.in/bitstream/123456789/46863/1/Unit-9.pdf
6. https://niepid.nic.in/models%20of%20teaching.pdf

COURSE OUTCOMES:

After completion of this course, the student-teachers will be able to:

CO1: explain the concept of critical Pedagogy.

CO2: adopt various teaching Models in teaching Mathematics.

CO3: demonstrate Activity Based Instruction and Group Controlled Instruction.

CO4: develop the various Educational Resources for teaching and learning Mathematics.

CO5: analyse the difference between Assessment and Evaluation.

OUTCOME MAPPING

COURSE OUTCOMES	PROGRAMME SPECIFIC OUTCOMES																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
CO1								*													*			
CO2		*						*		*														
CO3		*			*												*			*				*
CO4					*	*		*				*				*		*			*		*	
CO5				*																				