PAPER- IV & V: PEDAGOGY OF A SCHOOL SUBJECT (PART-I)

(ix) TEACHING OF MATHEMATICS M.M. 50

SUBJECT CODE: EDUREDI 104T External: 35

SUBJECT CODE: EDUBED1105 Internal: 15

(A) COURSE OUTCOMES

To enable the pupil teacher to

- Understand and appreciate the uses and significance of Mathematics in daily life
- Learn various approaches of teaching Mathematics and to use them judiciously.
- Learn the methods of providing instruction for the classroom.
- Organize curricular activities.
- Appreciate activities to develop aesthetics of Mathematics.
- Update their knowledge of content in mathematics.
- Understand the different teaching aids in the Teaching of Mathematics.
- Understand the different techniques for the evaluation of the students of Mathematics
- Evaluate the Student's Performance in Mathematics through the use of the scientific tools.

(B)SYLLABUS

SECTION - A

(i)Nature of Mathematics: Meaning, nature. importance and value of mathematics: Axioms,postulates, assumptions and hypothesis in mathematics.

(ii) Historical development of notations and hypothesis in mathematics: Contribution to mathematics (Ramanujam, Aryabhatta, Bhaskaracharya, Euclid, Pythagoras).

SECTION - B

(iii) Objectives Aims and objectives of teaching mathematics in elementary and secondary schools: Bloom's taxonomy of educational objectives and writing objectives in behavioural terms

(iv)Pedagogical Analysis: meaning and need and procedure for continuing pedagogical analysis, Classification of content, objective activity and experiment, evaluation, etc. Arithmetic (Number systems, Fractions. Ration and proportion, profit and Loss, simple and compound Interest). Algebra (Polynomials Linear equations. Quadratic equations Arithmetic Progressions). Geometry (Congruent and Similar triangles. Constructions and Circles) Trigonometry (t-ratiois. Heights and distances). Statistics (Measures of Central Tendency and Graphical Representation of Data

Activities (Any one of the following)

(i) Teaching aid from the 3-dimentional aspects
(ii) Creative way of teaching of mathematics at elementary level
(iii) Preparing a question bank for mathematics

(C) BOOKS RECOMMENDED

1. Aggarwal, AM. (1997). Teaching of Modem Mathematics New Delhi: Dhanpat Rai Publishing Co.
2. BangaChamanLat (2012) Teaching of Mathematics New Delhi: Shipra
3. Butler H. Charles, W& Lynwood, 1951). The Teaching of Secondary School Mathematics New York: McGraw Hill
4. Bloom, BS (1956) Taxonomy of Educational objectives the classification of educational goals Hew York: Longmans Green
5. Chambers, Paul (2010), Teaching mathematics Developing as a Reflective Secondary Teacher, New Delhi: SAGE
6. Gakhar, SC. & Singh, Haminder (2005), Teaching of Mathematics NM. Publishers
7. Taylor, Helen and Harris. Andrew: Learning and Teaching Mathematics.
8 Hansen, et al: Children's Errors in Mathematics
9. Witt Marcus: Primary Mathematics for Trainee Teachers
10: Chambers P Teaching mathematics in the secondary school.
11. Butler and Wren: The Meaning of Secondary School
12. Chadha, B.N: The Teaching of Mathematics
13. Gakhar, S.C. and: Teaching of Mathematics
14. Singh, Raminder
15. Kumar and: Teaching of Mathematics
16. Ratnalikar, D.N
17. Mangal, S.K.: Teaching of Mathematics
18 NCERT. Text Books (6th Class to 10th Class)
19. Sidhu, K.S. The Teaching of Mathematics
20. Travers, et al: Mathematics Teaching