D 13148 (Pages : 2) Name..... Reg. No.....

FIRST SEMESTER B.Ed. DEGREE EXAMINATION, DECEMBER 2016

EDU 05.10—THEORETICAL BASES OF TEACHING MATHEMATICS

(2015 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carries 2 *marks.*

1. What is meant by instructional objectives and specification and give *one* example for each ?
2. Mention any *two* nature of Mathematics.
3. Mention any *two* contributions of Ramanujan.
4. Write any definitions of Mathematics.
5. Mention any *two* values of learning history of mathematics.
6. Define puzzles and give one example for a puzzle.
7. Mention any *two* examples showing correlation of mathematics with Physics.
8. Write any *two* purpose of oral work in mathematics teaching.
9. What is meant by scaffolding' ?
10. Mention any *four* objectives of NCERT ?

(10 × 2 = 20 marks)

Part B

Answer any **ten** *questions.*
Each question carries 4 *marks.*

11. Briefly explain values of teaching mathematics.
12. Briefly outline correlation within mathematics.
13. Mention the significance of Laboratory method for teaching mathematics.
14. What is the scope of group work ? How will you organise group work effectively ?
15. Explain taxonomy of instructional objectives in Affective domain ?
16. Briefly explain different steps in problem solving method ? Enumerate the merits and demerits of problem solving method.

Turn over

17. Compare the Behaviourist and Constructivist approach.

18. Differentiate between 'Pure and Applied' Mathematics ?

19. Briefly explain logical and psychological approaches of curriculum construction ?

20. Describe briefly the contributions of Bhaskaracharya ?

21. Bring out the importance of homework. What are the arguments in favour of and against giving homework to students of mathematics.

22. Explain the significance of social constructivism in mathematics classroom ?

(10 × 4 = 40 marks)

Part C

Answer any **two** *questions.*
Each question carries 10 *marks.*

23. Briefly explain Gagne's theory. What are the educational implications of this theory in mathematics classroom.

24. Illustrate the inductive-deductive methods of teaching mathematics with suitable examples. Also mention its merits and limitations.

25. What are the modern trends in curriculum construction ? How far these principles observed in the construction of the curriculum in mathematics for the secondary schools in our state ?

(2 × 10 = 20 marks)