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Name.....

Reg. No.....

**THIRD SEMESTER M.Ed. DEGREE EXAMINATION, DECEMBER 2021**

M.Ed.

**MED 12.2.8—ADVANCED METHODOLOGY OF TEACHING MATHEMATICS**

(2017 Scheme)

Time : Three Hours

Maximum : 80 Marks

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

- 1 Mention a few significant mathematical contributions of Srinivasa Ramanujan.
- 2 Enlist the objectives of teaching mathematics at higher secondary classes.
- 3 How will you rectify the defects of the lecture method ?
- 4 Enumerate the importance of formative assessment.
- 5 Specify the merits of e-content presentation for teaching mathematics.

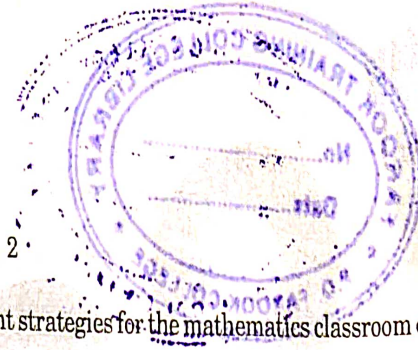
(5 × 2 = 10 marks)

II. Answer any *eight* questions out of twelve. Each question carries 5 marks :

- 6 Explain the mathematical contributions of any two eminent western mathematicians.
- 7 Describe the branches of mathematics and their unique characteristics from the mathematical perspective.
- 8 Discuss the concept of a constructive approach to teaching mathematics with examples.
- 9 Examine the difference between process-oriented and competency-based approaches in teaching mathematics.
- 10 Critically evaluate the Curriculum reforms in India with special reference to Mathematics Education.
- 11 Bring out Gagne's hierarchy of learning theory and its implications for teaching and learning mathematics.
- 12 Explain the modes of Cognitive development given by Bruner in the mathematical perspective.
- 13 Differentiate between criterion-referenced and norm-referenced tests with meaningful illustrations.

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- 14 Elaborate on the informal assessment strategies for the mathematics classroom of secondary school.
- 15 'Multimedia or Visual Resources make the teaching of Mathematics Easier'. Justify the statement with suitable illustrations.
- 16 Give a brief overview of revised Bloom's taxonomy of educational objectives concerning mathematics education.
- 17 Highlight the procedure of construction and standardization of achievement tests in mathematics.

(8 × 5 = 40 marks)

III. Answer any *two* questions out of four. Each question carries 15 marks :

- 18 How can you teach mathematics by using Analytic and Synthetic methods? Examine the characteristics and merits of analytic and synthetic methods in teaching mathematics.
- 19 Discuss in detail the principles and approaches of curriculum development for Mathematics Education.
- 20 Trace a detailed account of the psychological bases of mathematics learning centered on the theories of Jean Piaget and Howard Gardner with illustrations.
- 21 Explain the strategies to integrate the technology for mathematics teaching and critically examine the importance of integrating ICT Resources in teaching mathematics.

(2 × 15 = 30 marks)