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THIRD SEMESTER M.Ed. DEGREE EXAMINATION, DECEMBER 2022

M.Ed.

MED 12.2.9—ADVANCED METHODOLOGY OF TEACHING PHYSICAL SCIENCE

(2017 Scheme)

Time : Three Hours Maximum : 80 Marks

I. Short Answer Type Annotation Questions. Answer *all* questions. Each question carries 2 marks :

1 Define Guided discovery approach in science.

2 Name two popular science journals.

3 List 2 criteria to be taken care of while developing physical science textbooks.

4 What is the major aim of EDUBUNTU.

5 What is meant by scientific method ?

(5 × 2 = 10 marks)

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

6 Write a short note on science as a dynamic expanding body of knowledge.

7 Differentiate with examples the inductive and deductive method in science.

8 Explain the role and significance of teacher appraisal.

9 Discuss the planning and organization of laboratory works in physical science classrooms.

10 Write a short note on the desired professional competencies of science teachers.

11 Illustrate with suitable examples how innovative thinking can be fostered in science classrooms.

12 Explain the theory of Piaget in the context of physical science learning.

13 Describe project-based learning in science.

14 Write a short note on critical pedagogy and its application on teaching and learning of science.

Turn over

15 Describe the role and significance of ICT in physical science teaching. Give examples.

16 Discuss the vision of NCF 2005 with regard to physical science education.

17 Describe in detail the evolution of science as a discipline.

(8 × 5 = 40 marks)

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

18 Elaborate the changing roles and responsibilities of science teachers. Suggest methods to develop proficiency among science teachers for dealing with these changes.

19 Describe in detail the changing trends in physical science education at the national and international level.

20 Discuss the salient features of continuous and comprehensive evaluation. Explain in brief the planning and assessment of portfolios in science learning.

21 Explain the recent research trends in science education along with the important research areas in physical science education. Identify areas in which more research is needed with suitable justification.

(2 × 15 = 30 marks)