Ser. No. EDU 107/18

# GARISSA UNIVERSITY

## UNIVERSITY EXAMINATION 2017/2018 ACADEMIC YEAR TWO SECOND SEMESTER EXAMINATION

## SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES

## FOR THE DEGREE OF BACHELOR OF EDUCATION

**COURSE CODE: EDP 211**

**COURSE TITLE: SUBJECT METHODS PHYSICS**

**EXAMINATION DURATION: 3 HOURS**

**DATE: 17/04/18** **TIME: 09.00-12.00 PM**

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## INSTRUCTION TO CANDIDATES

- **The examination has SIX (6) questions**
- **Question ONE (1) is COMPULSORY**
- **Choose any other THREE (3) questions from the remaining FIVE (5) questions**
- **Use sketch diagrams to illustrate your answer whenever necessary**
- **Do not carry mobile phones or any other written materials in examination room**
- **Do not write on this paper**

**This paper consists of TWO (2) printed pages** ***please turn over***

**QUESTION ONE (COMPULSORY)**

(a) Define science **[1 mark]**

(b) Explain the static and dynamic views of nature of science **[4 marks]**

(c) Explain two approaches of teaching science in secondary schools **[4 marks]**

(d) State and explain three types of questions in science **[3 marks]**

(e) State three Safety procedures in the laboratory **[3 marks]**

(f) State three advantages of using improvised laboratory apparatus **[3 marks]**

(g) State two importance's of science and technology to young children **[2 marks]**

(h) Explain three methods of teaching science to young children **[3 marks]**

(i) State four characteristics of good science teacher **[2 marks]**

**QUESTION TWO**

(a) Explain five roles of the teacher in teaching and learning of science activities **[5 marks]**

(b) Describe five activities that teachers can use to develop science skills **[10 marks]**

**QUESTION THREE**

(a) Differentiate between inferring and predicting as skills learnt in science **[2 marks]**

(b) Explain four implications of John Dewey theory to teaching and learning of science **[8 marks]**

(c) Differentiate teacher and child centered approaches in the teaching and learning of science **[2 marks]**

(d) State two science activities that are child centered and two that are teacher centered **[3 marks]**

**QUESTION FOUR**

(a) Explain three modes of presenting knowledge and experience according to Jerome Bruner **[12 marks]**

(b) State three importance of assessing learners **[3 marks]**

**QUESTION FIVE**

(a) Explain the three Jean Piaget's stages of cognitive development in children **[12 marks]**

(b) Distinguish formative, summative and diagnostic assessment methods **[3 marks]**

**QUESTION SIX**

(a) Explain three implications of Jean Piaget's theory of cognitive development to science teaching. **[6 marks]**

(b) Describe the steps involved in the scientific problem solving process **[9 marks]**