

**UNIVERSITY OF ESWATINI
FACULTY OF EDUCATION
MAIN EXAMINATION PAPER NOVEMBER 2018**

TITLE OF PAPER: CURRICULUM STUDIES IN MATHEMATICS I

COURSE CODE: CTE331/CTE531

PROGRAMME: B.ED 3 & PGCE

TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS: ANSWER ANY **FOUR** QUESTIONS. EACH QUESTION IS WORTH 25 MARKS.

THIS PAPER HAS 5 PAGES.

DO NOT OPEN THIS QUESTION PAPER UNTIL INSTRUCTED TO DO SO BY THE INVIGILATOR

Question 1

Question and answer is one of the methods that can be used in the teaching /learning of mathematics.

- (a) **State** strengths and weaknesses of the question and answer method. [5]
- (b) To capitalise on the strengths and minimize the weaknesses what does a teacher preparing for a question and answer lesson need to do and not do on each of the following aspects:
 - i) The question. [5]
 - ii) The lesson delivery. [15]

Question 2

Create a learning task on the topic “The Shear” for senior secondary learners. [10]

Identify the following for the task:

- i) Material(s) needed to do the task. [2]
- ii) Prerequisite knowledge. [5]
- iii) The expected learning outcomes at the end of the task. [8]

Question 3

(a) Define and give examples of each of the following in relation to Mathematics teaching/learning:

- i) A concept and concept development [3,2]
- ii) Misconceptions [3,2]

(b) Work out the task in appendix 1A then give a full analysis of the learner’s work in appendix 1B [15]

Question 4

Discuss each of the following types of motivation in relation to the teaching and learning of school Mathematics:

- i) Intrinsic motivation.
- ii) Extrinsic motivation.

In your discussion state and explain the seven factors that you could use to improve learners’ motivation. [25]

Question 5

For mathematics to be meaningful to learners it should be taught in contexts that are realistic to them. Write an essay on the use of realistic contexts in the teaching and learning of school mathematics. In your essay make examples using the topic ‘Statistics.’ In appendix 2 there is a syllabus extract to guide you. [25]

APPENDIX 1A

In a class of 50 learners each learner studies at least one of these subjects: Mathematics (M), Physics (P) and Chemistry (C).

10 study Mathematics only

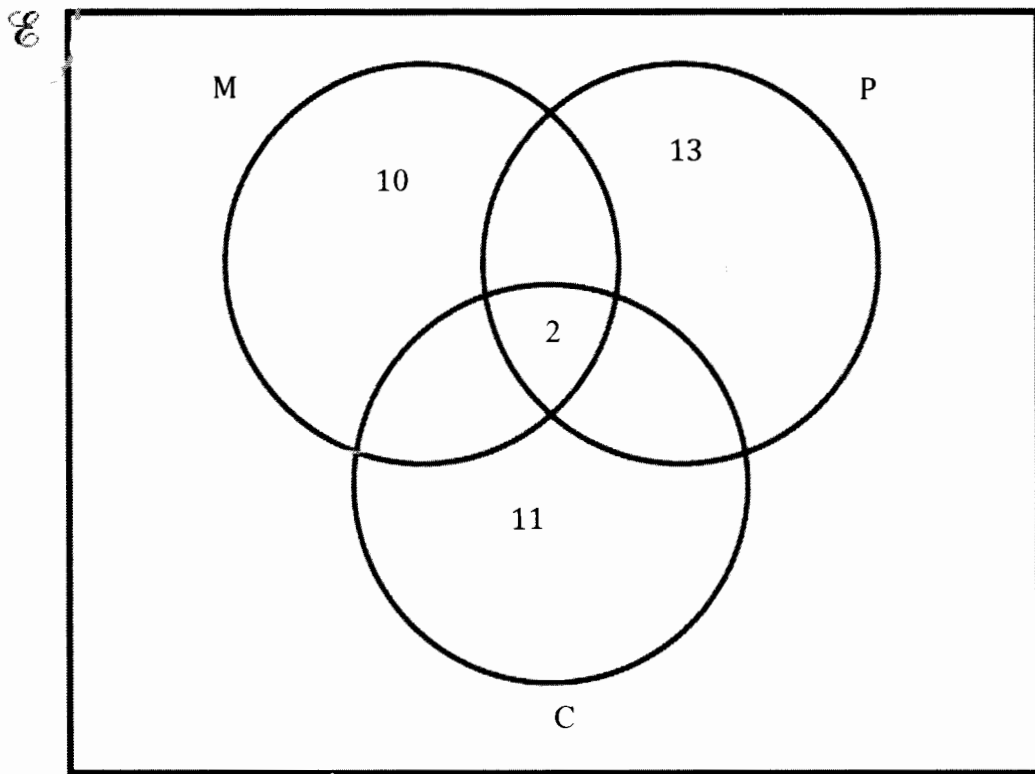
13 study Physics only

11 study Chemistry only

9 study Mathematics and Physics

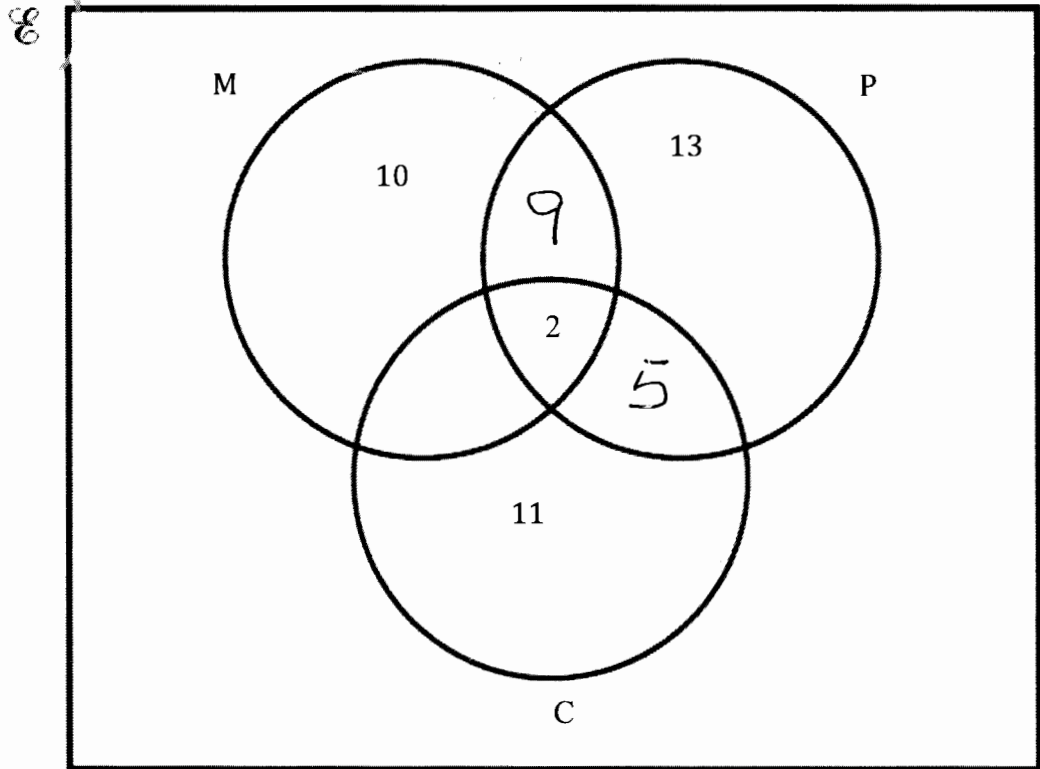
5 Study Physics and Chemistry

2 study all 3 subjects



- a) Complete the Venn diagram to show the above information.
- b) How many learners do not study Mathematics?
- c) Find $n(P \cup C)$

APPENDIX 1B



- a) Answers in the Venn diagram.
 b) How many learners do not study Mathematics?

$$\underline{50 - (13 + 5 + 11) = 21}$$

- c) Find $n(P \cup C')$.

$$\underline{n(P \cup C') = 9 + 13 = 22}$$