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SCHOOL OF EDUCATION

DEPARTMENT OF SPECIAL NEEDS EDUCATION AND EARLY CHILDHOOD DEVELOPMENT

ESN 2221

SPECIAL METHODS OF TEACHING MATHEMATICS

DECEMBER 2018 EXAMINATIONS.

QUESTION 1

(a) Define the following terms

- i. Curriculum
- ii. Schemes of work
- iii. Mathematics

(3marks)

a.

b. What is the significance of using the teaching and learning resources when teaching mathematics? [1mark]

c. State any two records a teacher should have in class when teaching [2marks]

d. Explain any three methods you can use to introduce addition as a skill in mathematics in std. Three for learners with H.I. [6marks]

e. Use any three examples to explain the fact that multiplication is commutative just like addition to STD. III for learners with H.I. [6marks]

f. Vygotsky (1978) emphasised the zone of proximal development in teaching a subject like mathematics. Explain how this helps a teacher in teaching and setting questions on capacities as a concept [8marks]

g. Demonstrate how you would use balancing machine to verify that 4kgs is equal to 4000g to a learner with mathematics difficulties in STD VI [4marks]

QUESTION 2

- a. Describe how some two teaching resources would be used to introduce additions with regroupings in a class of learners with mathematics difficulties [2marks]
- b. A child with mathematics difficulties mathematics assignment to compute:

342+1806+27. He did it as follow:

$$\begin{array}{r} +342 \\ 1806 \\ 27 \\ \hline \dots\dots\dots \\ 61926 \\ \dots\dots\dots \end{array}$$

Analyse the response and explain why he/she got the wrong answer (8marks)

(c) Explain the steps you would use to introduce the concept of measurements in STD V of learners with H.I. using the units of lengths. (10marks)

QUESTION 3

A train left Nyuki town at 8.35 am and arrived at Ndiwo town at 3. 55pm.what was the time taken by the train to cover the journey. A child with mathematics difficulties worked it out as follows:

$$\begin{array}{r} 8.05 \\ 3.55 \\ \hline 4.50 \text{ HRS} \\ \hline \dots\dots\dots \end{array}$$

- a. Identify any four areas of difficulty that he had [4marks]
- b. Describe the procedure you would take to enable the child reach the level of solving such a problem in mathematics [9marks]
- c. Work out the correct answer to that question. [7marks]

QUESTION 4

- a. Draw a net to help you lead your standard 7 learners with H.I. in constructing a cube whose length is 6cm [6marks]
- b. Calculate the total surface area of the cube [2marks]
- c. Two standard 5 pupils were told to increase 25 by 255 and their answers were 50/= and 50% respectively. Explain the procedure a teacher would use to help the two children reach the correct answer [10marks]
- d. Calculate and get the correct answer [2marks]

QUESTION 5

- a. Using specific examples state the 5 emphasised areas of an objective in a scheme of work or a lesson plan. [5marks]
- b. With specific examples differentiate between formative and summative evaluation in the Kenyan education system [4marks]
- c. Set three questions in mathematics reflecting on comprehension, application and analysis among the components of Bloom's taxonomy in cognitive domain in learning [6marks]
- d. Describe an activity you would conduct to clarify how pi [π] comes to be used in circumference; $C = 2\pi r$ OR circumference; $C = \pi d$. (4marks)