APRIL 2021
EBS 145
ELEMENTARY GEOMETRY
1 HOUR 20 MINUTES

Candidate's Index Number
Signature:

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
SCHOOL OF EDUCATIONAL DEVELOPMENT AND OUTREACH
INSTITUTE OF EDUCATION

COLLEGES OF EDUCATION
FOUR-YEAR BACHELOR OF EDUCATION (B.ED)
FIRST YEAR, END-OF-FIRST-SEMESTER EXAMINATION, APRIL 2021

APRIL 1, 2021 ELEMENTARY GEOMETRY 2:40 PM – 4:00 PM

SECTION B
(60 MARKS)
Answer only THREE questions from this section. Show all workings clearly.

1. a) A rectangular field has its length and breadth to be 23.7m and 14.5m respectively. The owner reserved 113.42 m^2 of the field for grazing and engages a labourer to clear the remaining portion of land at the cost of GH₵2.57 per 1.4m^2 area. How much would the owner pay the labourer be paid for the job? **[7 Marks]**

b) Find the equation of the line through (-2, -3) and parallel to the line $3x-2y=5$. **[13 Marks]**

2. a) The vertices of a triangle ABC are $A(0,2), B(1,5)$ and $C(-1,4)$. Find the:

(i) lengths of AB, AC and BC of the triangle and determine the type of triangle formed giving reason for your answer. **[12 Marks]**

(ii) the perimeter of the triangle ABC. **[2 Marks]**

b) Find the area of the sector of a circle with radius 9 cm and central angle 35°. [Take $\pi = \frac{22}{7}$]. **[6 Marks]**

3) a) A hexagon has x^0 as the value of the angle of three of its interior angles. Two of the remaining angles are each double the size of the three interior angles with the sixth angle having a measure of 160^0.

i) Calculate the value of x. **[5 Marks]**

ii) Find the corresponding exterior angle to the largest interior angle. **[2 Marks]**

b) In a given regular polygon, the ratio of the exterior angle to the interior angle is 1:3. How many sides has the polygon? **[13 Marks]**

4. a) Find the measure of each interior angle of a ceramic floor tile in the shape of a regular octagon. **[6 Marks]**

b) Determine whether the following pair of lines $3y = 2x + 4$ and $3y = -2x - 7$ are either parallel, intersect or perpendicular. **[8 Marks]**

c) The area of a circle is $38.5cm^2$. Find the length of the radius of the circle. (Take $\pi = \frac{22}{7}$). **[6 Marks]**