MACHAKOS UNIVERSITY

University Examinations 2018/2019

ARTISAN EXAM APRIL 2019

SECTION A: MATHEMATICS

PART 1: (24 MARKS)

Answer all the questions from this section.

1. Convert the recurring decimal 0.6666 into a fraction (3 marks)
2. What is the value of 0.33× 0. 45
   i) Correct to 1 decimal place
   ii) Correct to 2 significant figures
   iii) In standard form (3 marks)
3. Given A=510, P=500 and x=0.04 find the value of m in the expression

i$A = P\left(L + \frac{mx}{12}\right)$

4. Evaluate $2\frac{1}{2} \times 3\frac{2}{3} \div 5\frac{5}{6}$
5. Solve the simultaneous equations of using elimination method

   2x+4y=6

   3x+y=-1

6. The figure shows a trapezium: calculate its area

7. A tuk tuk travels 15km at 30km/hr and a further 15km in 20 minutes. Determine the average speed of the journey. (3 marks)
8. Make G the subject of the formula

i) $\frac{v=k+\frac{4G}{3}}{p}$ (6 marks)

Part 2 (16 marks)

Answer any two questions from this part.

9a) A watch was purchased for k£13.20 because a discount of 12% was allowed. Find the marked price of the watch. (k £1= ksh 20)

b) Arrange the following fractions in descending order:

i) $\frac{4}{9}, \frac{11}{18}, \frac{3}{5}, \frac{10}{27}$

10a) The following are marks scored by 20 students in a math's test

11,3,6,8,6,6,9,8,8,13,5,13,10,9,5,5,3,4,5,5

Determine

i)The mode

ii)The median

ii)The mean score

b) From a point, the angle of elevation of a tower is 30°. if the tower is 20cm away from the point, what is the height of the tower

11a) solve the equation

i) $\frac{2x-5}{3} - \frac{3x-1}{4} = \frac{3}{2}$

b) A line passes through p (3-2) and has a gradient -2/5. What is the equation of the line?

c) The ages of a father and his son are in the ratio of 12:4. If the father is 30years older than the son, find the sum of their ages.