GATITU SECONDARY SCHOOL, P.O. BOX 327 – 01030, GATUNDU.
FORM 3 MATHEMATICS MID TERM EXAMINATION TERM 3 2014.
ATTEMPT ALL QUESTIONS.

1. Expand $(2 - 1/_5x)^5$ hence use the expansion to find the value of $(1.96)^5$ correct to 3 d-p
(6mks

2. A geometrical series is such that its first term is 2. Find the two possible common ratios if the sum of the three terms is 26. (4mks

3. Given the sequence 1, ½, ¼, --------- find the 7th and 10th terms. (4mks

4.   Given the sequence 0, 3, 8, 15,...........,/ Find the 5th and 8th term of the series. (4mks

5.   The sum of the first 10 terms of an arithmetic series is 400. If the sum of the first 6 terms of the same series is 120, Find the 15th term.   (5mks

6.   The fourth term of a geometrical sequence is 192. If the first term of the sequence is 3, Find   (a) the common ratio
b) the number of terms that will give a sum of 255.   (5mks

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7. A quantity y is partly constant and partly varies inversely as x^2. If y = 7 when x = 10 and y = $5\frac{1}{2}$ when x = 20, write an equation connecting y and x. hence find y when x = 18. (6mks

8. The probability that horse A wins a race against B is $^2/_5$. If the horses run three races is succession, (a) prepare a tree diagram to show the possible outcomes. (4MKS

b) Find the probability that (i) Horse B wins all the races. (2mks

ii) Horse A wins only one race. (2mks

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iii)   Horse B wins more races than horse A   (2mks

9.   A man playing a game of darts has a probability of $\frac{1}{3}$ of hitting a double. If he throws three darts, prepare a tree diagram to show the outcomes.   (4mks

Find the probability of
   i)   Hitting 2 doubles   (2mks

   ii)   More than one double   (2mks

   iii)   At least two doubles   (2mks

10.   An integer is picked at random from the integers 1 to 20 (inclusive). Find the probability that (a)   its divisible by 4   (2mks

4

b)   Its not divisible by 4   (2mks

c)   It is divisible by 2 or 4 or both   (3mks

d)   Its divisible by 2 and 3   (3mks

11.   Use matrix method to solve the system.   (6mks

$5x + 3y = 7$

$2x + y = 5.$

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