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Code No. : B-410(A)

Annual Examination - 2017

BCA-I

BCA-107

BRIDGE COURSE

Max.Marks : 50

Time : 3 Hrs.
Min Marks : 17

Note: Section 'A' , containing 10 very short answer type questions, is compulsory. Section 'B' consists of short answer type questions and Section 'C' consists of long answer type questions. Section 'A' has to be solved first.

Section-'A'

Very short answer type questions. Answer in one or two sentences (1x10=10)

Q.1 Find the value of $\begin{vmatrix} 2 & -3 \\ 4 & 9 \end{vmatrix}$.

Q.2 Write the element of 2nd row and 3rd column of the given matrix.

$$\begin{bmatrix} \tan\theta = \frac{\cos\theta}{1+\sin\theta}, & \frac{\cos\theta}{1+\cos\theta} = \tan\frac{\theta}{2} \\ 3 & 1 & 0 & 5 \end{bmatrix}$$

Q.3 Find the value of $^9P_3$.

Q.4 Write the series of e^{-x}.

Q.5 If   find the value of   and   .

P.T.O.

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Q.3 Prove that :

OR

If $\sin A = \dfrac{3}{5}$, where   , find the values of $\sin 2A$ and

.

Q.4 Find the equation of a straight line which passes through the point   and whose intercept on   axis is twice that on   axis.

OR

Find the equation of the parabola whose focus is   and the directrix is $x + y = 4$.

Q.5 The following table shows the weight of 12 students:

Weight (in kg)   : 67   70   72   73   75
Number of students : 4   3   2   2   1

Find the mean weight by using short-cut method.

OR

Calculate the median from the following data :

Marks   : 0-10   10-30   30-60   60-80   80-90
No. of students : 5   15   30   8   2

----x----

Q.6   Evaluate   .

Q.7   Write the slope of the straight line $3x - 4y = 12$.

Q.8   Write the equation of the circle whose centre and radius is
        and 2 respectively.

Q.9   If the heights of 5 persons are 144 cm, 152 cm, 151 cm, 158
        cm and 155 cm respectively. Find the mean height.

Q.10   Find the mode of the series :

        3, 4, 2, 1, 7, 6, 7, 6, 5, 6, 8, 9, 5

Section-'B'

Short answer type questions with word limit 150-200

(3x5=15)

Q.1   Which term of the sequence :

        72, 70, 68, 66, --- is 40 ?

OR

        Find the sum of 7 terms of the

        G.P. 3, 6, 12 --- .

Q.2   If $^{12}P_r = 1320$ then find the value of r.

OR

        Prove that :

Q.3   Find the value of

OR

        Prove that :

Q.4   Find the value of x, if the distance between the points

        and   is 5.

OR

        Find the equation of straight line which makes an angle of

        with the $x-$axis and cuts off an intercept of   with

        the   axis.

Q.5   Find the mean deviation from the mean for the following data :

        6, 7, 10, 12, 13, 4, 8, 20

OR

        Find the mean of the following distribution :

        x : 4   6   9   10   15
        f : 5   10   10   7   8

Section-'C'

Long answer type questions with word limit 300-350

(5x5=25)

Q.1   The sum of three numbers in A.P. is -3 and their product is 8.
        Find the numbers.

OR

        The first term of a G.P. is 1. The sum of the third and fifth terms
        is 90. Find the common ratio of the G.P.

Q.2   If   find r.

OR

        Prove that :