

J-270 (A)
BCA (Part-I) Examination, 2021
BRIDGE COURSE

Time Allowed : Three Hours

Maximum Marks : 50

Minimum Pass Marks : 17

Note : Attempt all questions. One question from each

unit is compulsory. All questions carry equal

marks.

UNIT-I

Q. 1. (a) Find the value of matrix :

$$A = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 2 & 1 \\ 3 & 1 & 2 \end{bmatrix}$$

(b) What do you mean by partial function ?

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OR

(a) Explain geometric progression.

(b) Find 11th term of arithmetic progression :

3, 5, 7, 9, 11,

UNIT-II

Q. 2. (a) Find the value of :

$$\log_{10} \frac{4}{5} + \log_{10} \frac{5}{6} + \log_{10} \frac{6}{4}$$

(b) Find the binomial expansion of $(3x + 4y)^5$.

OR

(a) Find the value of following determinates :

$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$$

(3)

(b) Find the value of :

$$\log_{10} \left(\frac{4}{5} \times \frac{5}{6} \times \frac{6}{4} \right)$$

UNIT-III

Q. 3. (a) Prove that :

$$\tan A + \tan B = \frac{\sin(A+B)}{\cos A \cdot \cos B}$$

(b) Prove that :

$$\cos^2\theta \tan^2\theta + \sin^2\theta \cos^2\theta = 1$$

OR

(a) Find the value of :

$$\sin 60 \cos 30 + \sin 30 \cos 60$$

(b) Prove that :

$$\sin^2\theta + \cos^2\theta = 1$$

(4)

UNIT-IV

Q. 4. Explain the following with example :

(a) Parabola

(b) Hyperbola

OR

(a) Find the slope of equation :

$$7x + 5y = 11 \text{ and } 4x + 3y = 6$$

(b) If A = (0, 2), B = (4, 5) then find the value of AB.

UNIT-V

Q. 5. Write short notes on any two :

(a) Statistics

(b) Parabola

(c) Geometric mean

(d) Mode

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BCA (Part-II) Examination, 2021

BRIDGE COURSE

Time Allowed : Three Hours

Maximum Marks : 50

Minimum Pass Marks : 17

Note : Attempt all five questions. Marks are indicated against each question.

UNIT-I

Q. 1. (a) What do you mean by partial fractions. 5

(b) Break $\frac{1}{(x+2)(x+3)}$ into partial fraction. 5

OR

(a) Find the inverse of given matrix :

$$A = \begin{bmatrix} 4 & 5 \\ 6 & 7 \end{bmatrix}$$

(b) Explain determinants.

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UNIT-II

Q. 2. (a) Define permutation and combination. 5

(b) Find the expansion of $(4x + 5y)^3$. 5

OR

What do you mean by Exponential and Logarithmic

Series ? Explain with suitable example.

UNIT-III

Q. 3. (a) If $\sin \theta = \frac{4}{5}$ then find the value of $\tan \theta$. 5

(b) Prove that : 5

$$1 + \tan^2 \theta = \sec^2 \theta$$

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(3)

OR

- (a) Find the value of $\sin 45^\circ \cos 45^\circ \tan 45^\circ$.
- (b) Define inverse function.

UNIT-IV

Q. 4. (a) Derive the formula for distance between two points. **5**

(b) Define the procedure for finding the angle between two lines. **5**

OR

Define :

- (a) Parabola
- (b) Ellipse

(4)

UNIT-V

Q. 5. Write short notes (any two) : **5+5**

- (a) Mean
- (b) Frequency distribution
- (c) Mean deviation
- (d) Mode

