OR

Which shaps is represented by equation.

$$y = x^2 - 2x + 3$$

Unit - V

Q.5 A Define median. (1)

Q.5 B What is frequency distribution? (1)

Q.5 C Find median of data. ($2\frac{1}{2}$)

7, 16, 121, 51, 101, 81, 1, 16, 9, 11, 16

OR

For any given data the mean is 45.5 and median is 43. Find modal value.

Q.5 D The following data are weights of Students in class. find median weights of students. ($3\frac{1}{2}$)

Weight in kg	10	20	30	40	50	60	70
No. of Students	4	7	12	15	13	5	4

OR

Find the mode of following data.

Class	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequ	12	14	10	13	14	18	10

---x---

Roll No..... Total No. of Units : 05
Total No. of Printed Pages : 04

Code No. : BC-01/126

First Semester Examination, Nov.-Dec. 2024-25

BCA

BRIDGE COURSE

Time : 3 Hrs. **Max.Marks : 40**
Min. Marks :16

- प्रत्येक इकाई में प्रत्येक प्रश्न का भाग A एवं B अतिलघूत्तरी प्रश्न हैं, जिनके उत्तर एक या दो वाक्यों में दें।
- प्रत्येक इकाई के भाग C (लघूत्तरी प्रश्न) का उत्तर 150–200 शब्दों में दें।
- भाग D (दीर्घ उत्तरीय प्रश्न) के उत्तर 300–350 शब्दों में दें।
- Part A and B of each question in each unit consist of very short answer type questions which are to be answered in one or two sentences.
- Part C (Short answer type) of each question should be answered in 200-250 words.
- Part D (Long answer type) of each question should be answered within the word limit 400-450.

Unit - I

Q.1 A What is geometric progression? (1)

Q.1 B Define Identity Matrix. (1)

Q.1 C Find Partial fraction. ($2\frac{1}{2}$)

$$f(x) = \frac{1}{x^2 - 6x + 8}$$

OR

A series is given by 2, 6, 18, ... 486. Find the number of terms.

P.T.O.

Q.1 D Find Value of ($3\frac{1}{2}$)

$$\begin{vmatrix} 1 & 2 & 4 \\ -1 & 3 & 0 \\ 4 & 1 & 0 \end{vmatrix}$$

OR

Find inverse of $A = \begin{vmatrix} 2 & 3 & -1 \\ 3 & -1 & 1 \\ 3 & 2 & -2 \end{vmatrix}$

Unit - II

Q.2 A Find value of ${}^{12}P_5$. (1)

Q.2 B Find value ${}^{12}C_2$. (1)

Q.2 C Prove that $\frac{{}^{n}C_r}{{}^{n}C_{r-1}} = \frac{n-r+1}{r}$ ($2\frac{1}{2}$)

OR

if $\underline{|n+1} = 6\ \underline{|n}$ then find $\underline{|n}$.

Q.2 D Prove that. ($3\frac{1}{2}$)

$${}^{2n}C_n = 2^n \frac{[1\ 3\ 5 \ldots\ldots\ldots 2n-1]}{\underline{|n}}$$

OR

Find Coefficient of x^5 in expansion of $\left(3x^2 - \frac{a}{3x}\right)^6$.

Unit - III

Q.3 A Find the value of 120^0 in radian. (1)

Q.3 B Express $\frac{3\pi}{4}$ radian into degree. (1)

Q.3 C Find value of Sin 15^0. ($2\frac{1}{2}$)

OR

Find value of Cos 15^0.

Q.3 D Solve. ($3\frac{1}{2}$)

$$\tan^{-1} 2x + \tan^{-1} 3x = \frac{\pi}{4}$$

OR

If Cosec A = 2 then find value : $\frac{1}{Sin\ A} + \frac{Sin\ A}{1+\tan A}$

Unit - IV

Q.4 A Write equation of hyperbola. (2)

Q.4 B What is meant by locus? (2)

Q.4 C Find gradient of line passing through the points $(3,4)$ and $\left(6,\bar{5}\right)$. ($2\frac{1}{2}$)

OR

Find foci and ecentricity of hyherbola.

$$49y^2 - 16x^2 = 784$$

Q.4 D In $\Delta\ ABC$ if a = 18, b = 24, c = 30 then find Cos A and Cos B. ($3\frac{1}{2}$)

P.T.O.