

B.B.A. Semester - 1 (CBCS) Examination**Jan/Feb.-2022 (OLD COURSE)****ELEMENTS OF BUSINESS MATHEMATICS(ELECTIVE/ALLIED)****Time: 1:30 Hours****Marks: 42****Instructions:**

1. Figures to the right indicate marks.
2. There are five questions in the question paper.
3. Answer any three of the following questions.

Q1(a) Define 'permutation' and 'combination' (07)

(b) Find value of 'n' (07)

(i) ${}^n P_3 = 210$

(ii) $11 \cdot n P_3 = 6 \cdot n + 2 P_3$

Q2(a) Define (i) Arithmetic and geometric progression. (07)

(b) The third term of an A.P. is 9 and its 9th term is 21, find the sum of its 40 terms. (07)

Q3(a) Find value of $(\sqrt{5} + \sqrt{3})^6 + (\sqrt{5} - \sqrt{3})^6$ (07)

(b) Find middle term in the expansion of $(X - 1/X)^{11}$ (07)

Q4(a) Explain the meaning of interpolation and extrapolation. State their Uses. (07)

(b) From the following data interpolate Y for X = 20 (07)

X	14	18	22	26	30	34
Y	30	35	42	51	62	75

Q5(a) In usual notation prove that $1+2+3+4+\dots+n = n(n+1)/2$ (07)

(b) By using principal of Mathematical Induction prove that $2.5 + 4.8 + 6.11 + \dots + 2n(3n+2) = n$ (07)

$(n+1)(2n-3)$
