Goa Vidyaprasarak Mandal's GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND ECONOMICS FARMAGUDI, PONDA GOA B.COM. UGC-CCFUP (SEMESTER-I) REGULAR EXAMINATION NOVEMBER 2023 BUSINESS MATHEMATICS

Duration: 1 hour

Marks: 20

Instructions:1. Question No.1 is compulsory.2. Attempt any 4 from question No. 2 to No.73. Each question carry 4 marks each.

Q) Answer the Following:

- 1. Out of total 200 students appearing for a test; 140 passed in Mathematics and 100 passed in General Management. If 50 of them failed in both Mathematics and General Management, find the number of students who have passed in both by using Venn Diagram
- 2. Find the future value of 10,00,000 after 3 years if compounded interest rate is 10% per annum.
- 3. A person has taken a loan of 80,000 to be return in 5 monthly instalments at the rate of 12% per annum compounded monthly. Find the EMI using the reducing balance method.
- 4. A person is promised the final amount of a half yearly ordinary annuity with periodic payment of 1600, the duration of the annuity being 4 years and the rate of interest is 10% to be compounded half-yearly. Find the present value of the annuity.
- 5. The demand function is given by $p = 30+6D D^2$. Find the revenue and marginal revenue when demand is 4 units.
- 6. The demand function for a commodity is $p = 20 2x x^2$. Find the consumer's surplus when p = 50.
- 7. The income of A and B is in the ratio 4:3 and their expenditure is in the ratio 3:2. If each of them save 600 at the end of a year, find the annual income of each.

(5x4 Marks = 20)