

S.D.E.

B.B.A. (2006 COURSE) SEM- I : WINTER - 2017
SUBJECT : INTRODUCTION TO BUSINESS MATHEMATICS

Day : Tuesday
Date : 12/12/2017
Time : 10.00 AM TO 1.00 PM
Max. Marks : 80

W-2017-4091

N. B. :

- 1) Attempt ANY FIVE questions from Section-I. Each question carries 10 marks.
- 2) Attempt ANY TWO questions from Section-II. Each question carries 15 marks.
- 3) Answer to both the SECTION should be written in SEPARATE answer books.

SECTION – I

- Q. 1** a) A plot was sold and the owner received Rs. 8084/- after the payment of commission at 8 % on the cost of land. Find the cost of land. (05)
- b) The sum of the ages of father, mother and daughter is 85 years and the ages are in the ratio 8 : 7: 2. Find their ages. (05)
- Q. 2** a) What sum of money put at simple interest for 4 years at 10 p.a. will amount to Rs. 1,880/-. (05)
- b) Find $\frac{dy}{dx}$ if $y = 4x^3 - 3x^2 - 9x + 2$. (05)
- Q. 3** a) Find the 10th and 15th term of an A. P. : 12, 19, 26, (05)
- b) Find the fourth proportional to 4, 5 and 12. (05)
- Q. 4** a) Monthly incomes of two persons are in the ratio of 4 : 3 and their monthly expenditures are in the ratio of 7 : 9. If each saves Rs. 50/- per month, find their monthly incomes. (05)
- b) Find compound interest on Rs. 50,000/- at 16 % per annum for 2 years, compounded annually. (05)
- Q. 5** The Net Salary of an employee in a company is computed as follows: (10)
Net Pay = Basic Pay + D. A. + H. R.A.+ Incentives – Deductions .
The D.A. is paid @ 70 % on Basic Pay. H.R.A. is paid @ 15 % on Basic
incentive is paid @ 12 % of his basic. Amit is an employee and has Basic Pay of Rs. 22,000/- and he repays his loan @ Rs. 6,000 per month.
Find his Net Pay.
- Q. 6** The compound interest on a sum for 2 years is Rs. 832/- and the simple interest on the same sum for the same period is Rs. 800/- (10)
- i) Find the sum and rate of interest.
 - ii) Difference between the compound interest and simple interest for 3 years.

P. T. O.

- Q. 7** a) Given, y is proportional to x and $y = 8$, $x = 15$. Then find y when $x = 10$. (05)
- b) Three partners A, B, and C invest Rs. 36,000/-, Rs. 45,000/- and Rs. 54,000/- respectively in a business. Out of a total loss of Rs. 37,500/-, what will be C's share of loss? (05)

SECTION - II

- Q. 8** a) A student finishes a book by reading 30 pages per day in 16 days. If he wants to finish the book in 12 days, how many pages should be read by him every day? (07)
- b) What sum should be set aside every year which will amount to Rs. 5,00,000/- at the end of 10 years at 12 % per annum. (08)
[Given : $(1.12)^{10} = 3.1058$]
- Q. 9** a) Find the approximate value of $\sqrt{80}$ by using derivatives. (07)
- b) A radio when sold at 8.5 % profit fetches Rs. 45/- more when sold at 6.25 % profit. Find the cost price of the radio. (08)
- Q.10** Write short notes on the following: (15)
- a) Time Value of Money
- b) Applications of Linear Equations
- c) Trade and Chain Discounts

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