



NS – 484

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I Semester B.B.M. Examination, November/December 2016
(2012-13 and Onwards) (Repeaters)
BUSINESS MANAGEMENT
Paper – 1.5 : Quantitative Methods for Business – I

Time : 3 Hours

Max. Marks : 100

- Instructions :** 1) Answer should be written in **English** only.
2) **All the rough work must be shown on the right hand margin.**

SECTION – A

1. Answer **any 8** of the following. **Each** question carries **2** marks. **(8×2=16)**
- What is a Prime number ?
 - The HCF of two numbers is 42 and their LCM is 1260 and one of the number is 210. Find the other.
 - What do you mean by an equation ?
 - Solve the equation $18x - 4 = 2(8 - x)$.
 - What is unit matrix ? Give an example.
 - If $A = \begin{bmatrix} 9 & 2 \\ 3 & -7 \end{bmatrix}$, $B = \begin{bmatrix} -6 & 9 \\ 8 & 7 \end{bmatrix}$ find $A + B$.
 - What do you mean by arithmetic progression ?
 - Find the 12th term of 4, 8, 16, ...
 - What is banker's gain ?
 - Calculate simple interest on ₹ 50,000 for 5 years @ 11% p.a.



SECTION – B

- Answer **any 3** of the following. **Each** question carries **8** marks. **(3×8=24)**
- Solve $3(x + 5) - 25 = 9 + 2(x - 7)$.
 - If $A = \begin{bmatrix} 9 & 4 \\ 1 & 3 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & 8 \\ 6 & 12 \end{bmatrix}$, find a matrix x such that $2A + 5B + x = 0$.
 - Two numbers are in the ratio 5 : 8. If the sum of the number is 221, find the numbers.
 - Insert 4 arithmetic means between – 6 and 9.

P.T.O.



SECTION - C

Answer question no. 10 and any 3 of the remaining questions. Each question carries 15 marks. (4×15=60)

6. Solve $\frac{2}{3}x + \frac{3}{5}y = 17$

$$\frac{3}{4}x + \frac{2}{3}y = 19$$

7. a) Find the largest number that divides 147, 111 and 219 leaving a remainder of 3 in each case.

b) If $A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$ Prove that $A^2 - 4A + 5I = 0$.

8. a) If 15 kgs of commodity A and 17 kgs of commodity B together cost ₹ 241 and 25 kgs of commodity A and 13 kgs of commodity B together cost ₹ 279, find the price of each per kg. Solve by using determinants (Cramer's Rule).
- b) A father is 40 years older than his daughter. In 10 years the father's age will be 16 years more than 3 times the age of his daughter. Find their present ages.
9. a) The difference between simple and compound interest on certain sum of money for 5 years at 3% p.a. is ₹ 54.90. Find the sum.
- b) The difference between TD and BD on a bill due for 6 months at 4% is ₹ 24. Find the TD, BD and bill amount.
10. a) Find the sum of all even integers from 72 to 768 both inclusive.
- b) If 30 men working 8 hours a day can do a job in 24 days, in how many days 18 men working 10 hours a day will finish the same job ?