NS – 480

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I Semester B.B.A. Degree Examination, Nov./Dec. 2016
(CBCS) (F + R)
(2014-15 and Onwards)
BUSINESS ADMINISTRATION
1.5 : Quantitative Methods for Business – I

Time : 3 Hours Max. Marks : 70

Instruction *: Answer should be written in* ***English*** *only.*

SECTION – A

Answer **any five** sub-questions from the following. **Each** carries **two** marks. **(5×2=10)**

1. a) Find the sum of all natural number from 1 to 25.
   b) Find HCF and LCM of 28, 42 and 98.
   c) Solve : $3x^2 - 27 = 0$.
   d) If 17% of population of a city is 400, then find the total population of the city.
   e) Find the 20th term of the A.P 15, 12, 9, 6 ...
   f) Find A – B if $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ $B = \begin{bmatrix} -1 & -2 \\ -3 & 4 \end{bmatrix}$.
   g) If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} -3 \\ 2 \end{bmatrix}$ find AB.

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SECTION – B

Answer **any three** of the following, **each** carries **six** marks. **(3×6=18)**

2. Solve the equation $x^2 - 8x + 25 = x(x-4) - 25(x-5) - 16$.
3. The sum of 3 number in AP is –15 and their product is –80. Find the numbers.
4. 3 kgs of sugar and 7 kgs of rice cost Rs. 550 and 7 kgs of sugar and 3 kgs of rice cost Rs. 630. Find the cost of sugar and rice per kg, using Cramer's Rule.
5. Of a man's salary 15% is paid as rent, 60% as his living expenses. 20% is deposited in a bank and Rs. 325 is spent for the education of his children. What is his salary ?
6. Solve the equation by elimination method.

$$\frac{8}{x} - \frac{9}{y} = 1 \qquad \frac{10}{x} + \frac{6}{y} = 6\frac{2}{2}$$

P.T.O.

SECTION – C

Answer **any three** of the following. **Each** carries **fourteen** marks. **(3×14=42)**

7. a) Solve through formula method :

$$\frac{6x}{x+1}+\frac{6(x+1)}{x}=13$$

b) How many terms of the series 5, 4, 3, ... must be taken so that sum may be –90 ?

8. a) Two numbers are in the ratio of 4 : 5 and if 24 is subtracted from each of them, the remainder are in the ratio of 2 : 3. Find the numbers.

b) The sum of three numbers in a G.P is 14 and their product is 64. Find the numbers.

9. a) Using properties of determinants evaluate

$$|A|=\begin{vmatrix}23 & 6 & 11\\ 36 & 5 & 26\\ 63 & 13 & 37\end{vmatrix}$$

b) AB and C enter into partnership with Rs. 5,000, 3,000 and 2,000 respectively. A and B get 20% and 10% of the profit for special efforts and the balance is shared in capital ratio. In total if A receives Rs. 600 more than B. How much does each receive ?

10. a) Find the inverse of $A=\begin{bmatrix}2 & 4\\ 6 & 13\end{bmatrix}$.

b) A man borrowed Rs. 62,500 from a bank. After 2 years he paid Rs. 67,600 in full settlement of his debt. Find the rate of compound interest.

11. a) Find the present value, true discount, Banker's discount and Banker's gain on a bill of Rs. 10,450 due in 9 months at 6% per annum.

b) Find the compound interest on Rs. 4,000 for 1½ year at 10% per annum interest payable half yearly.