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I Semester B.Com. Examination, November/December 2013
(2012-13 & Onwards) (New Syllabus)
COMMERCE

1.7 : Methods and Techniques for Business Decisions

Time : 3 Hours

Max. Marks : 100

Instruction : Answers should be completely in English or Kannada.

SECTION – A

1. Answer **any 10** questions. **Each** subquestion carries **2** marks : **(10×2=20)**

- a) What are Natural numbers ?
- b) What is H.C.F. ?
- c) Write the types of equation.
- d) Solve for x, $4x^2 - 16 = 0$.
- e) What is pure quadratic equation ?
- f) Define matrix.
- g) What is meant by Transpose of matrix ?
- h) What is meant by interest ?
- i) Define Ratio.
- j) Give the meaning of Banker's Gain.
- k) Find the 10th term of the A.P. 3, 6, 9, . . .

l) If $\begin{bmatrix} a & 10 \\ -16 & 8 \end{bmatrix} = 0$ find 'a'.

SECTION – B

Answer **any four** questions. **Each** question carries **8** marks.

(4×8=32)

2. Find the L.C.M. of 12 and 14 and hence find their HCF.

3. Solve for 'X'

$$\frac{3x-1}{2} + \frac{x+2}{3} = \frac{9x+12}{5} - 2$$

P.T.O.



4. If $A = \begin{bmatrix} 6 & 3 \\ 8 & 2 \end{bmatrix}$, $B = \begin{bmatrix} 8 & 4 \\ -2 & 9 \end{bmatrix}$, $C = \begin{bmatrix} -2 & 4 \\ 6 & 8 \end{bmatrix}$. Find $7A - 2B + 3C$.

5. A man borrowed ₹ 12,500 from a bank and after 2 years he paid back ₹ 13,520 in full settlement of his debt. What is the percentage rate of compound interest charged by the bank ?
6. Find the sum of the sequence 5, 7, 13, . . . to 20 terms.

SECTION – C

Answer **any 3** questions. **Each** question carries **16** marks.

(3×16=48)

7. a) Solve $x^2 - 2x = 15$. 8
- b) 9 tables and 8 chairs cost ₹ 5,280. 8 tables and 12 chairs cost ₹ 5,280. Determine the cost of each table and of chair. 8
8. a) Find the inverse of $B \begin{bmatrix} 3 & 5 \\ 5 & 12 \end{bmatrix}$. 8
- b) Solve by Cramer's rule :
 $5x - 3y = 24$
 $-7x + 11y = 14$ 8
9. a) Cash sales ₹ 2,50,000, credit sales ₹ 1,50,000, return inwards ₹ 25,000, opening stock ₹ 25,000, closing stock ₹ 35,000. Gross profit ratio 20 %. Find out
 i) Cost of Goods sold
 ii) Gross Profit and
 iii) Inventory turnover ratio. 8
- b) The 4th and 8th terms of a G.P. are 24 and 384 respectively. Find the 5th term. 8
10. A bill for ₹ 12,750 drawn on May 27th 2012 for 4 months was discounted on July 19th 2012 at 4 % p.a. Find :
 i) Bankers discount
 ii) True discount
 iii) The Banker's Gain
 iv) How much the holder's of the bill receives ? 16