Q.P. Code : 13125

First Semester B.Com. Degree Examination,
November/December 2019

(CBCS – Repeaters)

Commerce

Paper 1.6 B – METHODS AND TECHNIQUES FOR BUSINESS DECISIONS

Time : 3 Hours] *[Max. Marks : 70*

Instructions to Candidates : Answer should completely in English.

SECTION – A

Answer any **FIVE** sub-questions. Each sub-question carries **2** marks : **(5 × 2 = 10)**

1. (a) What are even numbers?

   (b) Mention the types of equations.

   (c) If $X : 10 = 300 : 5$ find X.

   (d) Find the LCM of 16 and 24

   (e) What is Arithmetic progression?

   (f) Find the 21st term of an A.P. 2, 4, 6, 8.

   (g) Find HCF of 36 and 54.

SECTION – B

Answer any **THREE** questions. Each question carries **6** marks : **(3 × 6 = 18)**

2. Solve the equation

   $7(x - 3) - 3(x + 4) = 7 + 2(3x + 8)$

3. Solve $9x^2 - 3x - 2 = 0$ by using formula method.

4. Evaluate $\begin{vmatrix} 8 & 2 & 1 \\ 12 & 3 & -5 \\ 16 & 4 & 2 \end{vmatrix}$

5. Find TD, BD and BG on a bill of ₹ 10,450 due 3 months. Hence at 5% p.a.

6. Find the sum of the series 99 + 101 + 103 ... to 25 terms.

SECTION – C

Answer any **THREE** questions. Each question carries **14** marks : **(3 × 14 = 42)**

7. (a) Solve

$$\begin{aligned} 2x + 3y &= 42 \\ 5x - y &= 20 \end{aligned}$$ by using elimination method.

(b) There are two numbers that the sum of the first and three times the second is 53 while the difference between 4 times the first and twice the second is 2. Find the numbers.

8. (a) If $A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$ show that $A^2 - 4A - 5I = 0$.

(b) If $2x + 3y - 1 = 0$, $3x - y + 2 = 0$ solve by Crammer's rule.

9. (a) The third element of G.P. is the square of the first and fifth element is 64. Find G.P.

(b) The 8^{th} term and 20^{th} term of an A.P. are 22 and 46 respectively. Find the A.P. and hence 18^{th} term.

10. (a) Calculate the present value of an annuity of ₹ 5,000 p.a. for 12 years the interest being 4% p.a. compounded annually.

(b) Find the difference between simple and compound interest on Rs. 3,000 in 3 years at 4% p.a.

11. (a) Find the inverse of $\begin{bmatrix} 2 & -4 \\ -3 & 5 \end{bmatrix}$.

(b) Find the sum of all integers between 200 and 800 which are divisible by 9.
