2011

Time: 3 hours

Full Marks: 80

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer five questions, selecting two questions from each Group and Q. No. 1 is compulsory.

Indicate the correct answer:

 $2 \times 8 = 16$

(a) If $u = \{1, 2, 3, 4, 5\}$ and $A = \{1, 5\}$, then:

(i)
$$A^C = \{1, 3, 5\}$$

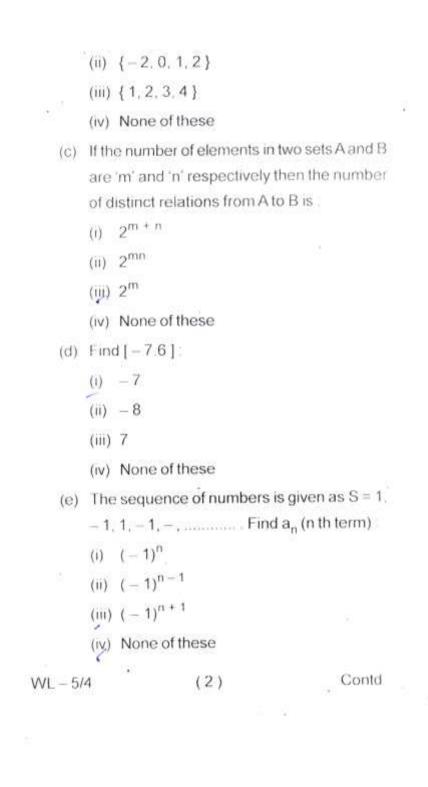
. (ii)
$$A^C = \{2, 5, 4\}$$

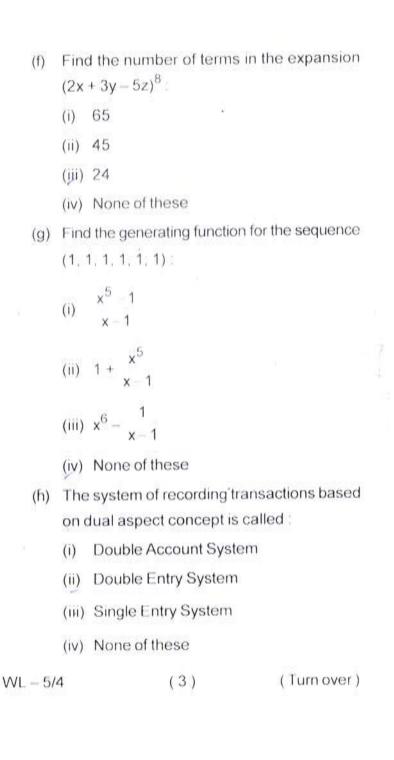
(iii)
$$A^C = \{1, 5\}$$

- (iv) None of these
- (b) If A = { -2, 0, 1, 2 } and B = { 1, 2, 3, 4 }, then A − B will be

WL - 5/4

(Turn over)





Group - A

 Define the terms set, subset, cartesian product of sets.

If $U = \{1, 2, 3, 4, 5, 6\}$, $A = \{1, 2, 3, 4\}$ and $B = \{3, 4, 5, 6\}$, find the bit string for the set A and B. Using bit string, determine the complement of A. Also find the union and intersection of A and B.

16

- (a) Draw block diagrams and truth tables for NAND, NOR and XOR gates.
 - (b) If * is defined as X * Y = X' + Y and Z = X * Y, find Z * X.
 10+6 = 16
- 4. (a) Explain the importance of k-map.
 - (b) Simplify the following expression using k-map: 8+8 = 16

(a) Prove by induction that the number of diagonals in a polygon of n sides is n(n-3)

WL - 5/4 (4) Contd.

(b) Let f and g be the functions from the set of integers defined by f(x) = 2x + 3 and g(x) = 3x + 2. Determine the compositions of f and g and g and f.

Group - B

- 6. Explain Ledger. Differentiate between manual accounting and computerized accounting. What is the relationship between ledger and journal?
- What is Tally? Explain its features. Explain what you know about vouchers for the transaction. 16
- 8 What is inventory? Explain briefly the types of inventory vouchers.
- 9 Write short notes on the following: 16
 - (a) ODBC.
 - (b) E-mail
 - (c) Web-Browser
 - (d) Budget

WL - 5/4 (100) (5) BCA(II) - 205

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