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[28]

SEAT No. _____

No. of printed pages: 03

SARDAR PATEL UNIVERSITY
Master of Computer Application
 First Semester Examinations, November 2018
PS01FMCA21 – Fundamentals of Mathematics and Accounting
 Tuesday, 20th November, 2018

Time: 10 AM To 1 PM

Marks: 70

Q1. Choose the most appropriate option for each of the following question. [8]

- i. If logical operator OR is used then True OR False will return _____.
 (A) False (B) True (C) -1 (D) 0
- ii. If A and B are inverse matrices of each other, then $A \times B =$ _____.
 (A) 0 (B) -1 (C) 1 (D) None of these
- iii. In a Graph G, the degree of a vertex v having only two self loops is _____.
 (A) 1 (B) 2 (C) 3 (D) 4
- iv. A _____ graph does not have self loops or parallel edges.
 (A) Complex (B) Simple (C) Isomorphic (D) Fused
- v. A _____ is a book which contains set of accounts.
 (A) Ledger (B) Journal (C) Balance sheet (D) None of given
- vi. Drawing account is _____ type of account.
 (A) Real (B) Personal (C) Nominal (D) None of given
- vii. A _____ is a person to whom the owner has to pay money of money's worth.
 (A) Debtor (B) Creditor (C) Both A & B (D) None of given
- viii. While balancing an account, if total of debit side amount is greater than the total of the credit side amount than the balance is known as _____.
 (A) Credit (B) Debit (C) Squared off (D) None of given

Q2. Answer the following questions (Any Seven): [14]

- a. Explain transpose operation in matrix with an example.
- b. Find the determinant of the matrix $A = \begin{vmatrix} 2 & -2 \\ 3 & 4 \end{vmatrix}$.
- c. Define Isomorphic graphs. Give one example of Isomorphic graph.
- d. Define complete graph. Draw a complete graph with four vertices.
- e. List any four properties of tree.
- f. Define: Accounting and Suspense Account.
- g. Write at least two major differences between Trial Balance and Balancesheet.
- h. List out the functions of Accounting.
- i. Write the main purpose of preparing Trading Account and Profit & Loss Account.

①

(P.T.O)

Q3. Do as directed.

A. List the steps required to prove mathematical statement using principle of mathematical induction. Also check that, if n is a positive integer then $1 + 2 + 3 + \dots + n = \frac{n(n+1)}{2}$ using principle of mathematical induction. [6]

B. Explain logical operator NAND, NOR, NOT using truth table. Also check that $\overline{AB} = \bar{A} + \bar{B}$ is valid or not using truth table. [6]

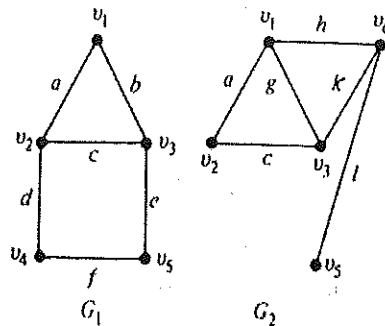
OR

B. Solve the following system of equation using Gaussian Elimination method. [6]

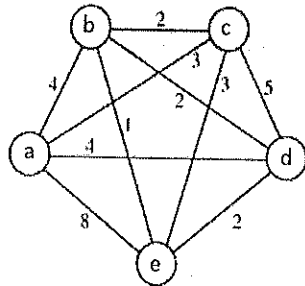
$$\begin{aligned} 2x + 6y + 8z &= 16 \\ 4x + 15y + 19z &= 38 \\ 2x + 0y + 3z &= 6 \end{aligned}$$

Q4. Do as directed.

A. Define (i) Union, (ii) Intersection and (iii) Ring sum of two graphs G_1 and G_2 . Also explain all three operations for following graph G_1 and G_2 . [6]

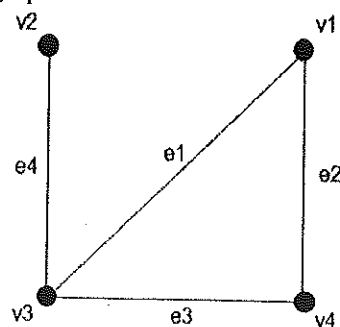


B. Define spanning tree and minimal spanning tree. Find the minimal spanning tree for following graph using prim's method. [6]



OR

B. Define Incidence matrix for a graph. Mention characteristics of Incidence matrix. Give Incidence matrix for following graph. [6]



(2)

Q5. Do as directed.

A. Mr. Nandu carried out a business as a Cloth merchant. On 31st December, 2018 and the following Trial Balance was prepared.

[6]

	Dr. Balances (Rs.)		Cr. Balances (Rs.)
Machinery	1,50,000	Sundry Creditors	12,900
Furniture	1,400	Capital	1, 50,000
Wages	3,700	Sales(credit)	20,800
Purchases(credit)	6,600	Sales(Cash)	6,000
General Expenses	190	Purchase Returns	300
Carriage	210		
Discounts	140	Total	1,90,000
Taxes	60		
Traveling Expenses	200		
Drawings	2,000		
Sales Returns	1,000		
Purchases (Cash)	10,000		
Stock (Opening)	14,500		
Total	1,90,000		

Prepare Trading Account and Profit & Loss Account considering the following:

- Closing stock was valued at Rs. 25,000/
- Depreciate Machinery by 10 %;
- Allow 10% interest on capital.

B. Define Balancesheet and prepare Balancesheet for Q5 A.

[6]

OR

B. Answer the following questions:

[6]

- Write the main objectives of maintaining accounting information.
- Write the rules for Debit and Credit for all types of accounts

Q6. Do as directed.

A. Enter the following transactions of April 2018, in a Journal book of Mr. Srivastava.

[6]

2018 April

- Started business with Rs. 1,50,000 and stock worth Rs 30,000.
- Purchased goods from Mr. Mehta worth Rs. 30,000.
- Sold goods Mr. Garg costing Rs. 10,000 and Mr. garg paid for the same.
- Mr. Srivastava withdraw Rs 25,000 for personal use.
- Cash Purchase of furniture worth Rs. 10,000 .
- Paid salary to Mr. Solanki a cleark Rs. 15,000 /=

B. Prepare Ledger and Trial Balance from Journal prepared in Q6 A.

[6]

OR

B. Answer the following questions:

[6]

- Write about the error(s) that cannot be disclosed by Trial Balance.
- Write the limitations of accounting information.

— X —
③

