Question Bank for S.E. Examination (A.Y. 2019-2020)

Institute:	THADOMAL SHAHANI ENGINEERING COLLEGE
Branch:	COMP
Sem:	III
Subject Name (with Subject Code):	Discrete Structures and Graph Theory (CSC302)
Number of questions:	**10**

1.	What is the number of edges in a complete graph with 7 vertices (a) 11 (b) 21 (c) 9 (d) 7
	Solution :(b) 21
2.	Let R is a relation on D_{36} defined as aRb if a|b. Then what type of relation is R? (a) Equivalence Relation (b) Symmetric Relation (c) Partial Order Relation (d) Both Reflexive and Symmetric Relation
	Solution :(c) Partial Order Relation
3.	Which of the following supports two binary operations? (a) Group (b) Semi-Group (c) Ring (d) Abelian Group
	Solution : (c) Ring
4.	Let the recurrence relation be $a_{n+2}-6a_{n+1}+9a_n=0$. What is the general solution? (a) $a_n=(b_1 - n.b_2).3^n$ (b) $a_n=b_1 + n.b_2$ (c) $a_n=(n.b_1 - n.b_2).3^n$ (d) $a_n=(b_1 + n.b_2).3^n$
	Solution : (d) $a_n=(b_1 + n.b_2).3^n$
5.	Let A=B=C=R the set of real numbers and f:A→B ; g:B→C defined by f(a)=a-1, g(b)=b^2 . What is (g º f) (2) ? (a) 1 (b) 0 (c) 2 (d) -1
	Solution : (a) 1

Question Bank for S.E. Examination (A.Y. 2019-2020)

6.	A connected graph G is an Eulerian graph if and only if all vertices of G are of _____ degree. (a) odd (b) zero (c) one (d) even
	Solution : (d) even
7.	If G is an Abelian group then which of the following property exist for G? (a) Distributive (b) Commutative (c) Modulo (d) Cyclic
	Solution : (b) Commutative
8.	In a class of students undergoing a computer course, the following were observed. Out of a total 50 students: 30 know Pascal, 18 know Fortran, 26 know Cobol, 9 know both Pascal and Fortran, 16 know both Pascal and Cobol, 8 know both Cobol and Fortran, 47 know at least one of the three languages. Determine how many students know exactly one language? (a) 31 (b)20 (c) 12 (d) 26
	Solution : (d) 26
9.	Consider (2,5) group encoding function $e:B^2 \rightarrow B^5$ defined by e(00)=00000, e(01)=01110, e(10)=10101, e(11)=11011. What is the correct option if we decode the following word: 10100 (a)11 (b)10 (c)01 (d)00
	Solution : (b) 10
10.	What rule of inference is used in this argument? If it snows today, the university will close. The university is not closed today. Therefore, it did not snow today. (a) Modus Ponens (b) Addition Rule (c) Modus Tollens (d) Conjunction
	Solution : (c) Modus Tollens

Question Bank for S.E. Examination (A.Y. 2019-2020)