JIET GROUP OF INSTITUTIONS

JODHPUR INSTITUTE OF ENGG. & TECH.

II MID-TERM EXAMINATION, 2019-20

IV B. TECH. (VIII SEMESTER)

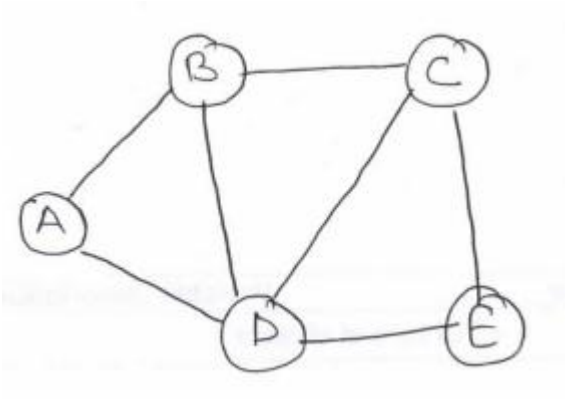
BRANCH: COMPUTER SCIENCE AND ENGINEERING

SUBJECT CODE:4CS2-01**… SUBJECT…**DISCRETE MATHEMATICS STRUCTURE**.**

Time: 90 minutes **Max. Marks: 50**

SET-4

All questions are compulsory

		Max. Marks	CO Mapping	Difficulty Level
Q.1	Solve the recurrence relation $a_n = -3a_{n-1}+10a_{n-2}$, n>=2 given $a_0=1$, $a_1=4$.	**[10]**	**[CO3]**	**[3]**
Q.2	Explain the following graph operations with an example: (i) Ring Sum (ii) complementary graph	**[10]**	**[CO5]**	**[2]**
Q.3	Find a chromatic number of given below: 	**[10]**	**[CO5]**	**[6]**
Q.4	Prove that the set Q^+ for all positive rational numbers forms an abelian group under composition defined by o such that $aob=(ab)/2$ for all $a,b \varepsilon Q^+$.	**[10]**	**[CO4]**	**[4]**
Q.5	Let D_m denote the positive divisors of m ordered by divisibility. Draw a hasse diagram of D_{72}. Is it lattice which is defined by $(L, \leq)$?	**[10]**	**[CO3]**	**[2]**