Total No. of Questions – [4] Total No. of Printed Pages: 1

G.R. No.	

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OCTOBER 2019 / INSEM (T1)

F. Y. M. TECH. (COMPUTER ENGG.) (SEMESTER - I)

COURSE NAME: Mathematical Foundation of Computer Science

COURSE CODE: CSPA11181

(PATTERN 2018:R1)

Time: [1 Hour] [Max. Marks: 20]

(*) Instructions to candidates:

1) **Answer Q.1 OR Q.2, Q.3 OR Q.4**
2) **Figures to the right indicate full marks.**
3) **Use of scientific calculator is allowed**
4) **Use suitable data where ever required**

Q.1) a) Illustrate the concept with neat diagram and notation used for the following graphs. [6]
I) Bi-Partite Graph II) Isomorphic Graph

b) Define subgraph. Determine whether H=H' = (V',E') is subgraph of G where : [4]
I) V' = {A,B,F} and E' = {(A,B), (A,F)}
II) V' = {B,C,D} and E' = {(B,C), (B,D)}

OR

Q.2) a) What is interconnection network and how does Benes network works along with its applications. [6]

b) Explain Euler's formula. [4]

Q.3 a) What is probability mass function and probability density function? [6]

b) Narrate the difference between discrete and continuous random variables. [4]

OR

Q.4 a) Explain the concept of reliability and failure rate. [6]

b) What are random variables? Explain functions of normal random variable [4]

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