

Total No. of Questions : 6]

SEAT No. :

P270

[Total No. of Pages : 2

B.E./INSEM/APR-597

B.E. (IT) (Semester - II)

414462 : DISTRIBUTED COMPUTING SYSTEM

(2015 Pattern)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates.

- 1) *Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.*
- 2) *Figures to the right side indicate full marks.*
- 3) *Assume suitable data if necessary.*

- Q1)** a) Explain the concepts of middleware in distributed system. How it deals with Heterogeneity? [5]
- b) What is a three - tiered client - server architecture? [5]

OR

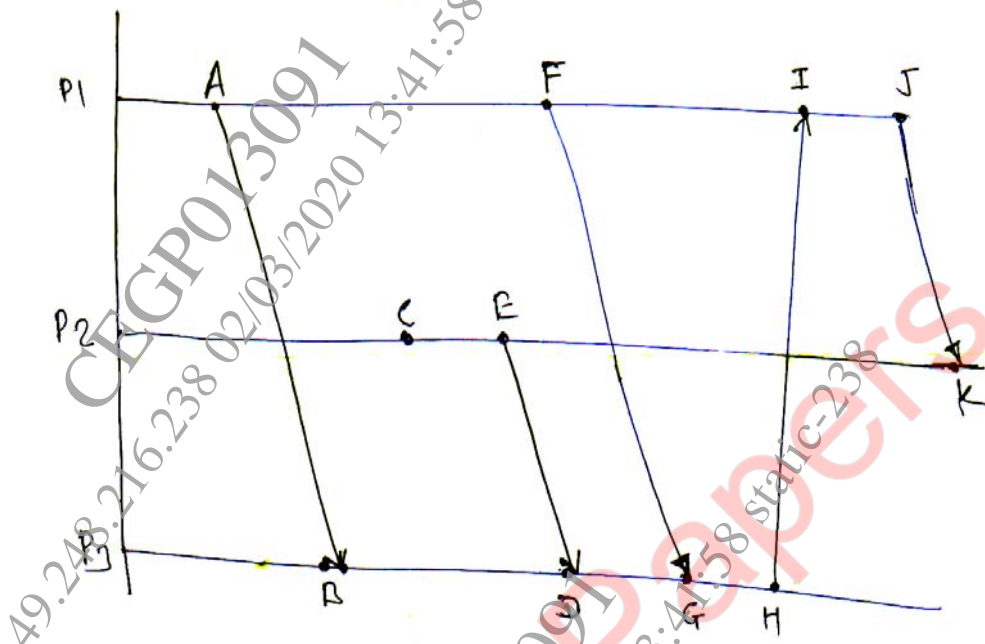
- Q2)** a) Explain various design issues of distributed system. [5]
- b) Explain what is meant by (distribution) transparency and give examples of different types of transparency. [5]

- Q3)** a) Define : [4]
- i) Persistent Communication.
 - ii) Transient Communication.
 - iii) Asynchronous Communication.
 - iv) Synchronous Communication.
- b) What are the drawback of Lamport's logical clock algorithms and how they are overcome in vector clock algorithm. [6]

OR

P.T.O.

- Q4) a)** State the differences between Ring and Bully Election algorithms. [4]
b) Solve following timing diagram using Vector - Time - Stamp Method. [6]



- Q5) a)** Show that Byzantine agreement cannot always be reached among four processors. Or two processors are fault. [6]
b) Distinguish between : [4]
 i) Buffering and Caching.
 ii) Caching and Replication.

OR

- Q6) a)** How failure is masked using redundancy? What is k-fault Tolerance system? [6]
b) Explain data-centric consistency models with its advantages and disadvantages. [4]

