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J-124—2019

FACULTY OF SCIENCE

B.Sc. (CS) (Third Year) (Fifth Semester) EXAMINATION

MARCH/APRIL, 2019

(CBCS Pattern)

COMPUTER SCIENCE

(S5.CC5)

(Distributed Computing)

(Monday, 22-4-2019)

Time : 10.00 a.m. to 1.00 p.m.

Time—3 Hours

Maximum Marks—75

N.B. :- (i) Attempt All questions.

(ii) Assume suitable data, if necessary.

1. Attempt any *five* of the following :

- (a) What is a distributed system ?
- (b) Explain object based architectural style for distributed system.
- (c) Explain the concept of threads in distributed system.
- (d) Explain the types of communication.
- (e) Explain names of identifiers in distributed system.
- (f) What is Global Positioning System ?
- (g) Explain the advantages of user level threads.

2. Attempt any *two* of the following :

10

- (a) Explain different forms of transparency in a distributed system.
- (b) What is the role of middle-ware in a distributed system ? Explain.
- (c) Describe the layered architecture for grid computing systems.

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3. Attempt any *two* of the following : 10
- (a) Explain the organisation of an internet search engine.
 - (b) Explain unstructured peer to peer systems.
 - (c) Describe the general approaches to adaptive software.
4. Attempt any *two* of the following : 10
- (a) Describe the multithreaded clients.
 - (b) Explain general organization of a server cluster.
 - (c) Describe the models for code migration.
5. Attempt any *two* of the following : 10
- (a) Describe a typical structure of a message that appears on the network.
 - (b) Explain asynchronous remote procedure call.
 - (c) Explain message queuing system.
6. Attempt any *two* of the following : 10
- (a) Explain the concept of forwarding pointers.
 - (b) What is name resolution ? Explain.
 - (c) Explain DNS name space.
7. Attempt any *two* of the following : 10
- (a) Explain Lamports logical clock.
 - (b) Explain Decentralized Algorithm for mutual exclusion.
 - (c) Explain election algorithm using a Ring.

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