Code : 051715

B.Tech 7th Semester Special Exam., 2020

DISTRIBUTED COMPUTING

Time : 3 hours | *Full Marks* : 70

Instructions :

(i) The marks are indicated in the right-hand margin.

*(ii) There are **NINE** questions in this paper.*

*(iii) Attempt **FIVE** questions in all.*

*(iv) Question No. **1** is compulsory.*

1. Choose the correct option of the following (any *seven*) : 2×7=14

(a) In operating system, each process has its own

(i) address space and global variables

(ii) open files

(iii) pending alarms, signals and signal handlers

(iv) All of the above

(b) The number of processes completed per unit time is known as

(i) output

(ii) throughput

(iii) efficiency

(iv) capacity

(c) What is a long-term scheduler?

(i) It selects which process has to be brought into the ready queue

(ii) It selects which process has to be executed next and allocates CPU

(iii) It selects which process to remove from memory by swapping

(iv) None of the above

(d) Which one of the following is a synchronization tool?

(i) Thread

(ii) Pipe

(iii) Semaphore

(iv) Socke

(e) The link between two processes *P* and *Q* to send and receive messages is called

(i) communication link

(ii) message-passing link

(iii) synchronization link

(iv) All of the above

(f) RPC provides a(an) _____ on the client side, a separate one for each remote procedure.

(i) stub

(ii) identifier

(iii) name

(iv) process identifier

(g) Thrashing _____ the CPU utilization.

(i) increases

(ii) keeps constant

(iii) decreases

(iv) None of the above

(h) What is the advantage of caching in remote file access?

(i) Reduced network traffic by retaining recently accessed disk blocks

(ii) Faster network access

(iii) Copies of data creates backup automatically

(iv) None of the above

(i) The file once created cannot be changed is called

(i) immutable file

(ii) mutex file

(iii) mutable file

(iv) None of the above

(j) In distributed file system, _____ is mapping between logical and physical objects.

(i) client interfacing

(ii) naming

(iii) migration

(iv) hetrogeneity

2. What is distributed computing system along with its advantages and limitations? 14

3. What is IPC? Explain issues in IPC by message passing in brief. 14

4. What is multidata gram message? Explain encoding and decoding. 14

5. (a) How communication protocol works with RPC? Explain with diagram. 7

(b) What is a stub? How are they generated? 7

6. What is thrashing? Explain different methods used for solving thrashing in distributed shared memory. 14

7. *(a)* Explain load sharing in distributed system. What are the issues in designing load sharing algorithms? 7

   (b) Define fault tolerance. Explain. What are the different fault tolerance techniques? 7

8. How file caching scheme works in distributed system? Explain file caching design issue in brief. 14

9. Write notes on the following : 7×2=14

   (a) Call-back RPC

   (b) File accessing models

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