KUMARAGURU
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Register Number: …….

M.E DEGREE EXAMINATIONS: JUNE 2015

(Regulation 2014)

Second Semester

COMPUTER SCIENCE AND ENGINEERING

P14CST202: Distributed Computing

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. [K_2]

List I	List II
A. run in the background at a search engine site using HTTP requests to access web servers throughout the internet	i. The same virtual address can be valid in two different address space is called
B. Remote object table	ii. Web crawlers
C. Aliasing problem	iii. MongoDB
D. provides the mapReduce database command.	iv. records the correspondence between local object reference in that process and remote object references

	A	B	C	D
a)	ii	iv	i	iii
b)	i	iii	ii	iv
c)	ii	i	iv	iii
d)	iii	ii	i	iv

2 _____ is the process of taking a collection of data items and assembling them into a form suitable for transmission in a message [K_2]

a) UnMarshalling b) Marshalling

c) Un Shepherd d) Shepherd

3. A deadlock is detected but it is not really deadlock is called _____ [K_2]

a) Phantom b) Fortitude

c) Specter d) Resilience

4. _____ailure occurs when the clock stops ticking together [K_2]

a) Arbitrary failure b) Crash failure

c) Illogical failure d) Hurdle failure

5. _____ and _____ states are used to store the callback promises with the cached files on the workstation disks [K_2]

a) Valid b) Invalid

c) Allowed d) cancelled

6. A participant uses _____ to indicate that it has voted yes but does not yet know the outcome in two phase commit protocol [K_2]

a) Certain b) Yes

c) Uncertain d) Done

7. Reason for Omission Failures [K_2]

a) Low bandwidth b) checksum error

c) Time out d) buffer space

8. Assertion (A) : Not possible to order entry to the critical section by the times [K_2]
Reason (R) : The absence of global clocks

a) Both A and R are true and R is the correct explanation of A. b) Both A and R are true but R is NOT the correct explanation of A.

c) A is true but R is false. d) A is false but R is true.

9. Which of these Exceptions is thrown by remote method? [K_2]

a) InputOutputException b) RemoteAccessException

c) RemoteInputOutputException d) RemoteException

10 Steps for map reduce [K_2]

a) Run reduce( ) code b) Run the Map( ) code

c) Prepare Map input d) Shuffle the output

PART B (10 x 2 = 20 Marks)

11. Define performance transparency [K_1]
12. Point out the key feature of spontaneous networking [K_2]
13. What are the objectives of the jinni distributed event specification? [K_2]
14. How is meta data used in the file system? [K_3]
15. What are the threat operations most significant in cost? [K_2]
16. Why is clock synchronization necessary? [K_2]
17. Point out the role of group membership services [K_2]

18.	Define leaky bucket algorithm	[K_1]
19.	What is Mapreduce?	[K_1]
20.	What are the different types of EJB?	[K_2]

PART C (10 x 5 = 50 Marks)

21	How do you implement group communication using IP multicast?	[K_3]
22	Illustrate about TCP stream communication characteristics in detail	[K_2]
23.	Mention the different type of Domain Name Services queries are used in the internet.	[K_2]
24	Explain about distributed object model in detail	[K_2]
25	Explain the disadvantages of user level threads without multithreaded process and also mention advantages of user level threads	[K_2]
26	Discuss the factors to be taken into account when deciding to which NTP server and client should synchronize its clock	[K_2]
27	Mention the operations and their uses for two phase commit protocol	[K_2]
28	Draw the replica manager main state components and mention the purpose of each component	[K_2]
29	Point out the feature of JBOSS	[K_2]
30	Illustrate about File I/O Operations and Replica Management in Hadoop	[K_2]

PART D (2 x 10 = 20 Marks)

31.	Draw the Andrew file system's distribution process and illustrate the implementation of AFS	[K_2]
32	A server manages the objects a1,a2,….an. It provides two operations for its clients Read(i) return the Value of ai Write(i,Value) assign Values to ai The transactions T, U and V are defined as follows: T: x = read(i); write(j, 44); U: write(i, 55); write(j, 66); V: write(k, 77); write(k, 88); Describe the information written to the log file on behalf of these three transactions if strict two-phase locking is in use and U acquires ai and aj before T. Describe how the recovery manager would use this information to recover the effects of T, U and V when the server is replaced after a crash. What is the significance of the order of the commit	[K_3]

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