R-11 / R-13

Code: 1G472

IV B.Tech. I Semester Supplementary Examinations August 2020
Mobile Communicaitons
(Computer Science and Engineering)

Max. Marks: 70   **Time: 03 Hours**

Answer *any five* questions
All Questions carry equal marks (14 Marks each)
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1. a) Explain how the various location dependent services can be offered using mobile communication.   7M

    b) What kind of security and new data services are available in GSM?   7M

2. a) Describe Time division multiplexing in detail with necessary diagram   7M

    b) Why do we need a specialized MAC for mobile communication systems? Write a short note on Hidden and exposed terminals.   7M

3. a) Explain how Dynamic Host Configuration Protocol is working.   7M

    b) Describe how the packet delivery is happening in a mobile network.   7M

4. a) What is snooping TCP? How is it different from Indirect TCP?   7M

    b) Write a note on Mobile TCP.   7M

5. a) Explain any 2 protocols that are frequently used in MANET.   7M

    b) List the various difficulties faced while routing packets in MANET   7M

6. a) What is WAP? Explain its architecture in detail.   7M

    b) Elaborate the security and link management issues of Bluetooth protocol 7M

7. a) Write a note on transactional models.   7M

    b) Narrate the various quality of service issues faced in databases.   7M

8. a) Write a note on selective tuning techniques   7M

    b) Compare and contrast the push based and pull based mechanisms.   7M

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IV B.Tech. I Semester Supplementary Examinations August 2020
Open Systems for Web Technologies
(Computer Science and Engineering)

Max. Marks: 70   **Time: 03 Hours**

Answer *any five* questions
All Questions carry equal marks (14 Marks each)
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1.	a)	How to handle HTTP requests and response? Explain in detail.	8M
	b)	Write about Apache web server installation procedure.	6M
2.	a)	Explain briefly about servelets and JSP.	7M
	b)	What makes PHP a choice among the other scripting languages?	7M
3.	a)	Discuss various string manipulation functions.	7M
	b)	Explain call by value and call by reference with an example program.	7M
4.	a)	Explain how instances can be created using constructors?	7M
	b)	Write a PHP program to create a counter using files.	7M
5.	a)	What are cookies? What are the advantages and disadvantages of cookies?	6M
	b)	What is a session? Explain briefly about sessions	8M
6.		How can we prevent multiple submissions of a form on server side? Explain with example?	14M
7.	a)	Write PHP code to connect to a MySQL database.	7M
	b)	How to perform a query in PHP? Explain with PHP code.	7M
8.	a)	Explain briefly about Ajax? What are the advantages of Ajax?	7M
	b)	Explain briefly the function simplexml_load_file() with example.	7M

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Code: 1G175

IV B.Tech. I Semester Supplementary Examinations August 2020
Advanced Computer Architecture
(Computer Science and Engineering)

Max. Marks: 70   **Time: 03 Hours**

Answer *any five* questions
All Questions carry equal marks (14 Marks each)
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1. a) Express the execution time of a given computer program in terms of CPI. What are the factors that affect the CPI performance in general?   7M

    b) Enumerate the types of data dependency in programs with suitable examples.   7M

2. a) Define and explain the term 'asymptotic speedup', a metric used in parallel computers. Give the relation between this metric and that of 'average parallelism'.   7M

    b) Design a memory hierarchy such that the effective memory-access time t=900ns with a cache hit ratio h1 = 0.95 and a hit ratio h2 = 0.98 in main memory. Also the total cost of the memory hierarchy is upper-bounded by $1200. Following is the specifications of the memory characteristics.

Memory level	Access time	Capacity	Cost/Kbyte
Cache	t_1 = 25 ns	S_1 = 512 KB	C_1 = $0.12
Main Memory	t_2 to be computed	S_2 = 32 MB	C_2 = $0.02
Disk array	t_3 = 5 ms	S_3 to be computed	C_3 = $0.00002

                                                                                                     7M

3. a) What is meant by 'bus arbitration'? Distinguish between central and distributed bus arbitration techniques.   7M

    b) Discuss the role of 'prefetch buffers' in instruction pipelines. Explain the different types of such buffers.   7M

4. a) Compare and contrast between blocking and non-blocking networks. Explain the functional units of a row of crosspoint switches in crossbar networks.   7M

    b) What is cache consistency? Explain how the snoopy protocols help achieve data consistency among the caches and shared memory.   7M

5. a) What are the differences between vector processors and conventional processors? Write brief notes on vector instructions.   7M

    b) List and explain the architectural design goals for the development of general-purpose supercomputers.   7M

6.   Illustrate the two most common problems, viz. remote loads and synchronizing loads problems, caused by asynchrony and communication latency in massively parallel processors.   14M

7. a) Discuss the data dependencies problems in instruction level parallelism and counter measures.   7M

    b) Bring out the features of Tomasulo's algorithm and compare it with that of scoreboard.   7M

8. a) Write detailed notes on structural parallelism versus instruction level parallelism.   7M

    b) What is SoC? Describe the architectural features of UltraSparc T2 system.   7M

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