Master of Technology
First Semester Main Examination, Dec-2020
Cloud Computing [MTCSE101-1]

Time: 3:00 Hrs   **Max Marks 70**

Note: **Attempt any five questions out of eight.**
                All questions carry equal marks.

Q.1   Explain the clustering for Massive Parallelism.

Q.2   Explain in detail of Businesses-to-Business Integration (B2Bi) Services

Q.3   What is virtualization? What are the characteristics and techniques of virtualization? Explain VSAN?

Q.4   What is cloud ecosystem? How testing under cloud can be performed?

Q.5   Explain requirements of secure cloud software? Discuss cloud security architecture?

Q.6   Explain the cloud reference model?

Q.7   What do you mean by social network analysis? How cloud computing helps in this.

Q.8   List major features of Google app engine? Which kind of problems can be solved by it?

Master of Technology
First Semester Main Examination, Dec-2020
Advanced Data Structure and Algorithm [MTCSE102]

Time: 3:00 Hrs   **Max Marks 70**

Note : Attempt any five questions out of eight.
All questions carry equal marks.

Q.1   What is AVL search tree? Explain the complete process of insertion in AVL search tree by taking suitable example.

Q.2   What is recursion? Explain its type and differentiate between iteration and recursion? Explain how to remove recursion.

Q.3   Find the shortest path for the graph from vertex (G)
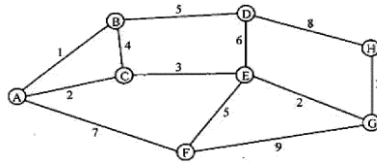
Q.4   What does it mean by Garbage Collection? Discuss marking phase and compaction phase of garbage.

Q.5   Find the minimum cost spanning tree with kruskal algorithm.
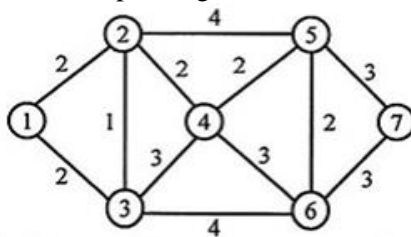
Q.6   What is hashing? Explain in detail open addressing technique to resolve hash clashes.

Q.7   Write the differences between internal sorting and external sorting.

Q.8   Write the short notes on the following:
(i) Local search algorithm   (ii) B-Trees   (iii) OOPS   (iv) Hashing

Master of Technology
First Semester Main Examination, Dec-2020
Object Oriented Technology [MTCSE103]

Time: 3:00 Hrs   **Max Marks 70**

Note : Attempt any five questions.
All question carry equal marks.

Q.1   Explain the difference between insertion and extraction operator, how they are used with cout and cin object.

Q.2   Define Following:
       (i) Object & Classes
       (ii)Encapsulation & Polymorphism
       (iii)Dynamic binding & message communication

Q.3   Explain the concepts of Object-Oriented programming. What is the benefit of Object-Oriented Programming?

Q.4   What do you understand by constructor and destructor? what are the type of constructors define each briefly.

Q.5   Explain call by value and call by reference with a suitable example

Q.6   What is a friend function? Can this be used to overload operators? Illustrate the use with a suitable example.

Q.7   What is inline function explain with suitable example.

Q.8   Describe the architecture of CORBA in detail.

Master of Technology
First Semester Main Examination, Dec-2020
Advance Computer Architecture (MTCSE–104)

Time: 3:00 Hrs   **Max Marks 70**

Note: **Attempt any five questions out of eight.**
               All questions carry equal marks.

Q.1   **(a) Explain memory address register and memory data register.**
               (b) What are micro operations?

Q.2   **(a) What is flynns classification of computer?**
               (b) Discuss following-
               i) Greedy Cycle
               ii) Simple Cycle
               iii) Forbidden Latency
               iv) Bottleneds

Q.3   **(a) What is DMA?**
               (b) Explain Synchronized and Asynchronized parallel algorithm.

Q.4   **(a) Discuss SIMD with respect to MIMD.**
               (b) What is vector processing? What are its instruction types?

Q.5   **(a) Explain the SHAD parallel algorithm.**
               (b) Explain the concept of multithreading.

Q.6   **(a) Explain parallel bubble sort.**
               (b) Explain shared memory multiprocessors.

Q.7   **(a) Explain cache coherence and its protocols.**
               (b) Explain parallel algorithm for array processor.

Q.8   **(a) Write short notes on:**
               i) RPC   **ii) Vector Processor**
               (b) Scheduling and local balancing.

Master of Technology
First Semester Main Examination, Dec-2020
Advance Computer Network (MTCSE – 105)

Time: 3:00 Hrs   **Max Marks 70**

Note : **Attempt any five questions out of eight.**
All questions carry equal marks.

Q.1   **(a) Distinguish among following:**
         i) LAN and MAN   ii) Interface and Services
         (b) Explain TCP/IP model in detail with its critical analysis.

Q.2   **(a) Explain following switching techniques in brief:**
         i) Packet Switching   ii) Circuit Switching
         (b) Write a brief note on the following:
         i) Analog V/s Digital transmission.
         ii) Pulse code modulation.

Q.3   **(a) Explain following in context with 802.3-**
         i) Cabling   ii) MAC sub-layer protocol
         (b) Write a short note on the following:
         i) Internet work routing   ii) IP Classes

Q.4   **(a) Explain Routers, Bridges and Repeaters.**
         (b) Explain OSI layer in brief.

Q.5   **(a) Write short note on the following:**
         i) Digital telephony   ii) Channel bandwidth
         (b) What is the difference between synchronous and asynchronous communication? Which system is more efficient and why?

Q.6   **(a) Why bit stuffing is necessary in HDLC protocol? How is it done.**
         (b) What is LAN? Discuss the advantage and disadvantage of LAN.

Q.7   **(a) Explain Token ring and Token bus.**
         (b) Discuss the function of the ISDN physical layer.

Q.8   **(a) What is path vector routing?**
         (b) What is the role of the Dijkstra algorithm in unicast routing?