Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10
   a.   What is folder?
   b.   Define protocol.
   c.   Write the data types in C.
   d.   What is FTP?
   e.   What are the functions of operating system?
   f.   Difference between hardware & software?
   g.   What is Array?
   h.   OMR stands for.
   i.   What is pointer?
   j.   Define algorithm.

2.   Answer **Any Six** Questions   6 x 5
   a.   What is file access method? Explain different types of file access method.
   b.   Define software. Explain types of software.
   c.   Describe different types of computer.
   d.   What are the different types of network? Give one example each of them.
   e.   What is transmission mode? Explain each of them.
   f.   Define each type of recursion.
   g   Write short notes on
          (a) e-mail & (b)chatting.

3   Define Operating system. Explain different types of operating system   10
4   What is virus? How it will detect n prevent?   10
5   Describe generation of computer. What are the features of   10
       computers of each Generation?
6   Write a program in C to find the greatest among three numbers.   10
7   What is topology? Explain each of them with a neat diagram.   10

2ND SEMESTER/ COMMON / 2022(S)
Th1(b) Computer Application

Full Marks: 80   Time- 3 Hrs

Answer any **FIVE** Questions including Q No.1& 2

Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10
   a. Write the symbols used for the following expression in flowcharts (I/o, Decision Making, Processing, Connector)
   b. Interpret MICR
   c. Define MIPS
   d. Identify which are variables ....
      (rama, r-ama, r_ama, rama2, 3rama, r@ama)
   e. Distinguish between file and folder
   f. Define algorithm
   g. Compare between compiler and interpreter
   h. Interpret WWW
   i. Define array
   j. Write four antivirus softwares

2.   Answer **Any Six** Questions   6 x 5
   a. Compare between time sharing and multiprogramming operating system
   b. Draw a flow chart to get the factorial of a given number
   c. Write on several type of operators used in C programming language
   d. Explain different mode of data processing
   e. Summarise different types of data transmission mode
   f. Explain how you could able to know that a computer system is virus affected
   g. Compare between 3rd and 4th generation computers

3   Draw a flow chart and write a program in C to get the addition of all even numbers from 1 to 99   10
4   Write on sequential, direct and ISAM file access method   10
5   Briefly write on several types of networking devices used to form a network   10
6   Summarise the features of DOS,UNIX and WINDOWS operating system   10
7   Classify memory in details   10

CST401   Computer System And Architecture

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   **Answer All questions**   2 x 10
    a.   List the functions of MAR and MDR.
    b.   What do you mean by Locality of Reference?
    c.   Justify the role of DMA?
    d.   Analyze the memory location and memory address.
    e.   List the performance measures of computer.
    f.   What do you mean by pipelining?
    g.   State memory interfacing.
    h.   ADD R1, R2 .   Identify the Opcode and operands.
    i.   Identify five devices that support USB bus.
    j.   Give examples of two-byte and three-type instruction format.

2.   **Answer Any Six Questions**   6 x 5
    a.   Draw and explain the functional block diagram of computer.
    b.   Describe the need of bus and explain the types of bus.
    c.   Sketch and discuss memory hierarchy.
    d.   Summarize the phases of instruction execution.
    e.   Computer with virtual memory has the following features:
        - Length of the virtual address is 38bits.
        - The page size is 16KB
        - Length of the physical address is 32bits.
          Calculate
            - Number of pages in virtual memory
            - Number of page frames in main memory.
    f.   Explain cache hit and cache miss with example.
    g   Analyze write-through and write-back policy.

3   Demonstrate different addressing modes with example   10
4   Establish the relation between primary memory and virtual memory.   10
5   Explain cache memory mapping.   10
6   llustrate the Flynn's classification with diagram.   10
7   Write short notes on (any four)   10
     a) Paging
     b) Mapping
     c) SCSI
     d) Interrupt driven I/O
     e) Micro program Control

4th Sem./ CSE /2022(S)

CST-402 Operating System & System Programming

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10

  a.   What is an Operating System?

  b.   What is Loader?

  c.   What is Multiprogramming?

  d.   Define process.

  e.   What is page fault?

  f.   What is scheduler?

  g.   What do you mean by context switching?

  h.   Define spooling.

  i.   Differentiate between file and Folder?

  j.   What are the different kinds of operations that are possible on semaphore?

2.   Answer **Any Six** Questions   6 x 5

  a.   Explain Bankers Algorithm.

  b.   What are the different states of a process?

  c.   Difference between paging & segmentation.

  d.   Explain major functions of operating system.

  e.   Explain virtual memory.

  f.   Explain device management techniques.

  g   Define the following terms
       i)Seek time   ii) Waiting time   iii) Turnaround time
       iv)Fragmentation   v)Real time

| 3 | What is deadlock? Explain necessary & sufficient conditions to occur deadlock. Explain the different methods used for deadlock prevention. | 10 |

3   What is deadlock? Explain necessary & sufficient conditions to occur   10
deadlock. Explain the different methods used for deadlock
prevention.

4   Consider the following set of processes with CPU burst time   10

Process	Burst Time	Arrival Time
P1	10	1
P2	4	2
P3	5	3
P4	3	4

     i)   Draw grant chart for FCFS, SJF & round Robin.
     ii)   Calculate average waiting time
     iii)   Calculate average turnaround time

5   What is compiler? Write seven phase of compiler?   10

6   What is file? Explain all types of file organization methods.   10

7   Define device allocation techniques. Explain function & working of   10
I/O scheduler.

CST404 - Object Oriented Methodology

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10
   a. Define data Abstraction and ENCAPSULATION.
   b. Mention 2 memory management operators.
   c. Distinguish between structure and union.
   d. What do you mean by object and class in C++.
   e. Differentiate data member and member function of a class.
   f. What is the application of scope resolution operator in C++.
   g. What do you mean by Abstract class.
   h. What is this pointer?
   i. What is istream and ostream?
   j. What do you mean by generic programming?

2.   Answer **Any Six** Questions   6 x 5
   a. Compare POP and OOP.
   b. Define inline function. Discuss its significance in C++.
   c. Define function overloading. Write a program to calculate area of
       square, rectangle and circle using function overloading concept.
   d. What is friend function? Briefly describe its characteristics.
   e. Define multipath inheritance with a diagram. Explain how
       ambiguity in multipath inheritance can be avoided.
   f. What polymorphism? Briefly explain different methods of
       achieving polymorphism in C++.
   g   What is template? Explain its types in brief.

3   Compare call by value and call by reference with suitable   10
      programming examples.

4   Define constructor and destructor. Mention their characteristics.   10
      Discuss all types of constructors.

5   What do you mean by Operator overloading? Write a program to   10
      show overloading of = operator.

6   Define Inheritance. Explain different types of Inheritance with neat 10
      diagrams.

7   What is Exception? Describe Exception handling mechanism in   10
      detail with a programming example.

4TH SEM. / CSE/IT / 2022(S)

Th-1   Operating System

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10
   a. Define Process Synchronization.
   b. What is Demand Paging?
   c. What is the significance of using semaphore?
   d. What is Page Fault?
   e. Write the difference between program & process.
   f. What is Fragmentation?
   g. What are the objectives of operating system?
   h. What is Belady's anomaly?
   i. What do you mean by job scheduling?
   j. What is context switching?

2.   Answer **Any Six** Questions   6 x 5
   a. What is Deadlock? Explain the necessary conditions for deadlock?
   b. What is Round Robin Scheduling algorithm? Explain with example.
   c. Explain different File allocation methods briefly.
   d. Compare the FCFS and SJF scheduling algorithm with respect to following.
      1.Turn Around Time
      2.Waiting Time
      Explain with suitable example.
   e. Explain Banker's algorithm for deadlock prevention.
   f. Define the following.
      1.Swapping
      2.Virtual Memory
   g Write short note on paging.

3   What are the functions of a Compiler? Explain briefly the seven phases of compiler.   10

4   What are the different page replacement algorithms available in operating system? Explain with example.   10

5   Explain different memory allocation techniques.   10

6   Explain different types of Scheduler with suitable diagram.   10

7   i)   Explain SPOOLING with diagram.   10
         ii)   Explain demand paging.

4TH SEM./APP.ELEC & INSTRU ENGG/ CSE/ECE/ETE/ IT/ MECHATRONICS/2022(S)
Th2 DATA COMMUNICATION AND COMPUTER NETWORK

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2

Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10
   a.   What do you mean by subnet mask?
   b.   Differentiate between physical address and logical address of a node in a network.
   c.   Compare between star and ring topology.
   d.   What is the role of protocol in networking?
   e.   Write the functional difference between STP and UTP cable.

   f.   What do you mean by line and block coding?
   g.   Explain Nyquist theorm for channel capacity.

   h.   Write the need of multiplexing in a communication channel.

   i.   Distinguish between bit rate and baud rate.
   j.   Give two examples of half duplex and full duplex mode of communications.

2.   Answer **Any Six** Questions   6 x 5
   a.   Illustrate different services provided by application layer in OSI model.
   b.   Describe the TCP/IP layering model.
   c.   List the difference between FDMA, TDMA and CDMA channelization techniques.

   d.   What are the transmission impairments in communication medium?

   e.   Classify synchronous and asynchronous mode of communication?

   f.   List the functions of switch, bridge and gateway.
   g   Explain the working principle of CSMA/CD.
3   Discuss different types of physical topologies in the network with   10
        diagram.

4	Describe different protocols work in each layer of OSI model	10
5	Explain different transmission medium used in data communication.	10
6	Illustrate NRZ and RZ coding techniques with examples.	10
7	Write Short notes on (ANY TWO) a) Bluetooth b)WLAN c) Parity bit d) Frame Relay	2X5

6th Sem./CSE/Information Technology/ 2022(S)
Th-3 Cloud Computing

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2

Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10

   a. What do you mean by cloud computing?

   b. Name the three basic components of federated cloud?

   c. Mention the name of different types of service model in cloud computing?

   d. What do you mean by virtualization? Write the full form of VMM.

   e. Write down the basic components of cloud computing.

   f. What does RPO & RTO stand for?

   g. Name 3 companies provide PaaS.

   h. Write down the need of a digital certificate.

   i. Define agility on cloud and cloud interoperability?

   j. Mention the name of various types of VPN.

2.   Answer **Any Six** Questions   6 x 5

   a. Outline the characteristics of cloud computing.(any five)

   b. Explain in detail about the cloud adoption.

   c. Sum up the Strategies of Disaster Recovery.

   d. Describe about the Deployment model in Cloud Computing.

e. Portray the Key principles behind the Cloud Computing Device Fault Tolerance.

f. Explain the working principle of cloud ecosystem.

g What does Hadoop stand for? Illustrate the layers of Hadoop architecture?

3 Outline the components of Cloud Computing. Explain about the Cloud Computing layers with proper diagram. 10

4 Mention the name of various cloud computing organizations that focused on addressing standards. Explain about the Role of standards in cloud-computing environments 10

5 Define data centre in cloud computing. Write down the various components of data centre. Explain about the Cisco Data Centre Network architecture in brief. 10

6 Explain the need of virtualization in cloud computing. Describe various types of virtualization in cloud computing. 10

7 Write down the name cloud technologies (any three). Outline the case study of Google App Engine and Microsoft Azure. 10

Th3   MICROPROCESSOR AND MICROCONTROLLER

Full Marks: 80   Time- 3 Hrs

Answer any **five** Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10

  a. Differentiate between microprocessor and microcontroller.

  b. Determine the total memory accessed by 8085 microprocessor.

  c. Name different machine cycles of 8085 microprocessor and mention the number of T – states present in each machine cycle.

  d. Define Stack Pointer (SP) and Program Counter (PC) of 8085 μP?

  e. Give 2 examples each of 2 – byte and 3 – byte instructions for 8085 μP.

  f. Name the non-maskable and non – vectored hardware interrupts of 8085 μP.

  g. Consider the following 8085 program.
      MVI A, 25H
      RRC
      RRC
      Find the content of accumulator, A after execution of this program.

  h. What do @ and # signs indicate in 8051 μC and where are they used?

  i. Draw the internal RAM structure of 8051 μC.

  j. Show different bit positions of flag register in 8086 μP.

2.   Answer **Any Six** Questions.   6 x 5

  a. Explain different addressing modes of 8085 μP with examples.

  b. Give 2 examples each for the following groups of instruction of 8085 μP and explain their meaning.
          i)   Data Transfer ii) Arithmatic iii) Logic iv) Branching v) Machine Control

  c. Draw the timing diagram for the instruction **MVI A, 67H**.

  d. Explain the different bit positions of flag register in 8085 μP. Given **[A]=58 H**, what will be content of flag register after execution of the following instruction?
       ADI A, BCH

  e. Explain the bit positions of control word of 8255 PPI for I/O and BSR Mode.

  f. Differentiate between memory mapped I/O and I/O mapped I/O

  g   Write an 8051 – assembly level language program to find the multiplication of 8-bit data present in two consecutive memory locations and store the result in next memory location.

3	Draw the pin diagram of 8085 µP and explain each pin briefly.	10
4	Explain the architecture of 8255 PPI with the help of its block diagram.	10
5	Write an 8085 – assembly language program to find the largest number in a given array of 10 numbers.	10
6	Draw the internal architecture of 8086 µP and explain the function of each block briefly.	10
7	Write short notes (**Any TWO**).	10

     I.   Timer Mode (T_{MOD}) and Timer Control (T_{CON}) registers of 8051 µC.

    II.   Direct Memory Access (DMA).

    III.   Software and Hardware Interrupts of 8085 µP.

TH-4   Database Management System

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10
    a. What do you mean by data redundancy?
    b. Define the terms instance and schema.
    c. What is composite key?
    d. Define database management system.
    e. Explain the role of DBA.
    f. Define serializability.
    g. Define a partial dependency.
    h. Why views are created in database?
    i. What is data dictionary?
    j. Define query language.

2.   Answer **Any Six** Questions   6 x 5
    a. What is Normalization? Why it is required? Explain the Boyco-codd
        normal form with example.
    b. Explain the 3-tier schema architecture of DBMS.
    c. What do you mean by relational algebra? Explain the following
        relational algebra operations with example.
                i)Projection ii) selection iii)full outer join
    d. Explain the concept of mapping constraints with suitable example.
    e. Explain briefly all the Data Definition Language commands with
        suitable example.
    f. What is E-R diagram? Explain with suitable example.
    g   Define the following terms
        i)Tuple ii)Attribute   iii)Primary Key
        iv)Foreign Key   v)Domain

3   What is transaction processing? Explain the different states of   10
        transaction. Discus ACID properties.

| 4 | What is encryption? Describe the different encryption technique. | 10 |

5   Write the SQL commands with example of following   10

         i)   Create Table
         ii)   Viewing data of tables
         iii)   Updating the contents of table
         iv)   Modify the structure of a table
         v)   Insert data into table

6   What is data concurrency? Explain the working of concurrency control mechanism.   10

7   What is database system. Explain briefly the different components of Database System.   10

Th2   Internet of Things

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10
   a.   What is the concept behind Internet of Things?

   b.   List down the name of the fundamental components of IOT.

   c.   What are the different types of actuators are there in IOT?

   d.   Mention the name of various connectivity technologies that are used in IoT.

   e.   What does M2M stand for? Write down the three applications of M2M.

   f.   What is the importance of Raspberry Pi in IoT? Name the various versions of Raspberry Pi.(any two)

   g.   What does HAN stand for? Mention the name of the elements present in HAN.

   h.   What does SDN stand for? What is the goal of SDN?

   i.   Sum up the basic requirement to perform a case study on Traffic control system using Arduino Board.

   j.   Write down the applications of IIoT.

2.   Answer **Any Six** Questions   6 x 5
   a.   Outline the characteristics of IoT.
   b.   Differentiate between Consumer Iot and Industrial IoT.(any five)
   c.   Define multihoming. Classify between classical multihoming and multihoming with multiple addresses.
   d.   Portray the architecture of IEEE 802.15.4.
   e.   Illustrate the four modes by which sensors detect the objects.
   f.   What do you mean by smart home? Give four examples of smart homes in brief.
   g   Outline the benefits and challenges of IIoT.

3   What is the role of sensor in IoT? Write any 2 differences between static sensor and dynamic sensor. Explain about the various types of sensors in IoT.   10

4   What does MQTT stand for? Write down the components of MQTT with proper figure. Describe the working principle of MQTT.   10

5   Define WSN. Explain about Under Water Acoustic Sensor Networks.   10

6   Name any two types of Arduino board. Illustrate the various components of Arduino with proper diagram.   10

7   What do you mean by smart cities? Briefly explain about the functional layers in smart parking.   10

6th Sem./CSE/Information Technology/ 2022(S)
Th-3 Cloud Computing

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer **All** questions   2 x 10

   a. What do you mean by cloud computing?

   b. Name the three basic components of federated cloud?

   c. Mention the name of different types of service model in cloud computing?

   d. What do you mean by virtualization? Write the full form of VMM.

   e. Write down the basic components of cloud computing.

   f. What does RPO & RTO stand for?

   g. Name 3 companies provide PaaS.

   h. Write down the need of a digital certificate.

   i. Define agility on cloud and cloud interoperability?

   j. Mention the name of various types of VPN.

2. Answer **Any Six** Questions   6 x 5

   a. Outline the characteristics of cloud computing.(any five)

   b. Explain in detail about the cloud adoption.

   c. Sum up the Strategies of Disaster Recovery.

   d. Describe about the Deployment model in Cloud Computing.

e. Portray the Key principles behind the Cloud Computing Device Fault Tolerance.

f. Explain the working principle of cloud ecosystem.

g What does Hadoop stand for? Illustrate the layers of Hadoop architecture?

3   Outline the components of Cloud Computing. Explain about the Cloud   10
    Computing layers with proper diagram.

4   Mention the name of various cloud computing organizations that   10
    focused on addressing standards. Explain about the Role of standards
    in cloud-computing environments

5   Define data centre in cloud computing. Write down the various   10
    components of data centre. Explain about the Cisco Data Centre
    Network architecture in brief.

6   Explain the need of virtualization in cloud computing. Describe various   10
    types of virtualization in cloud computing.

7   Write down the name cloud technologies (any three). Outline the case   10
    study of Google App Engine and Microsoft Azure.

Th4   Artificial Intelligence & Machine Learning

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10
   a.   Define artificial intelligence.
   b.   What is knowledge based system?
   c.   Define hill climbing.
   d.   What is decision tree?
   e.   What is Natural Language Processing?
   f.   What is an Artificial Neural Network?
   g.   What is the Turing test?
   h.   What is Game Theory in AI?
   i.   Which search method takes less memory?
   j.   What is machine perception?

2.   Answer **Any Six** Questions   6 x 5
   a.   Explain the heuristics functions with example.
   b.   Discuss about the forward chaining with example.
   c.   Differentiate between supervised learning & unsupervised learning.
   d.   What are the applications of Machine Learning?
   e.   What are the various components of the Expert system?
   f.   Describe the different types of reasoning?
   g   Explain the different applications of artificial intelligence.

3   What is A* search? Explain various stages of A* search.   10
4   What is reinforcement learning? Explain the Active & Passive   10
       reinforcement learning.
5   Explain the design principle of pattern recognition system.   10
6   Describe the working principle of expert system architecture.   10
7   Define knowledge representation. Explain the different   10
       approaches of knowledge representation system.

Th-4   E-Commerce

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10
   a.   Write the difference between E-commerce & E-Business.
   b.   Define e-hub.
   c.   Define tunnelling.
   d.   What is network address translation?
   e.   Define client. Name the types of client.
   f.   What is trade cycle?
   g.   What is e-waste?
   h.   How does virus spread?
   i.   Differentiate Intranet and Extranet.
   j.   Why password is used in a system?

2.   Answer **Any Six** Questions   6 x 5
   a.   Briefly describe various perspectives of E-commerce.
   b.   Explain the major activities of B2C.
   c.   What are the various components of EDI? Explain its various
        features.
   d.   What is supply chain? Explain porter's value chain model.
   e.   What do you mean by client server network security? State the
        common e-commercesecurity tools.
   f.   Explain the various types of risk associated with electronic payment
        system.
   g   Define SSL. How SSL works?

3   Explain different types of risks associated with Internet banking.   10
4   Define Biometrics. Explain the different kinds of biometric   10
        technology.
5   What is competitive advantage? Explain the porter's model for   10
        competitive forces.
6   Define firewall. Why firewall is used explain its characteristics and   10
        features in e-commerce environment.
7   Explain various advantage and disadvantage of E-commerce   10

6th Sem. /COMP.SC & ENGG./ 2022(S)

CST602   Internet & Web Technology

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2

Figures in the right hand margin indicates marks

1.	Answer **All** questions	2 x 10
a.	Differentiate between internet and www. (any two)	
b.	What does ARPANET stand for?	
c.	How many versions are there in IP till date?	
d.	Define checksum.	
e.	Classify different types of FTP server.	
f.	Give few examples of web browser.	
g.	What is POP3?	
h.	Give an example of table tag.	
i.	Write down the concept behind DTD.	
j.	What does VB stand for in VB Script?	

2.	Answer **Any Six** Questions	6 x 5
a.	Explain various types of connectivity by the help of which we can connect with the internet.	
b.	What is the bit size of checksum in TCP? Illustrate the various fields present in TCP checksum.	
c.	Write five differences between connections oriented protocol and connection less protocol.	
d.	Explain about the UDP message format.	
e.	Explain the concept behind DNS with example.	
f.	Write a program in JavaScript to display Hello Java.	
g	Differentiate between HTML and XML.(any five)	

3	What do you mean by Dotted Decimal Notation? Briefly explain about Classfull addressing scheme.	10
4	Describe the TCP/IP model .Summarize the various types of protocols present in each layer of TCP/IP.	10
5	What do you mean by subnet address extension? Describe the subnet mask representation.	10
6	Briefly explain about the internet application and services.	10
7	Write down the features of HTML. Illustrate the architecture of Common Gateway Interface.	10

6TH SEM./COMP.SC.&ENGG./2022(S)

CST603   Computer Network & Network Security

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2

Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10

a.   Differentiate between threat and attack?

b.   What do you mean by cipher text? How it differs from plain text?

c.   Give examples of protocol that works for internet security.

d.   What do you mean by authentication and authorization?

e.   Compare SSL and TLS.

f.   Difference between confusion and diffusion.

g.   Encrypt the message "I am Bob" using additive cipher with key=20.

h.   What is TSP?

i.   Write the need of SHTTP.

j.   Give two examples of symmetric key algorithm.

2.   Answer **Any Six** Questions   6 x 5

a.   How Symmetric key cryptographic algorithm differs from Asymmetric key cryptographic algorithm?

b.   Describe the working principle of SET protocol.

c.   Explain all the security principles.

d.   Compare stream cipher and block cipher with example.

e.   List out the benefits of IPSec.

f.   Use Playfair Cipher with key COMPUTER to encrypt the message "CRYPTOGRAPHY".

g   What are the security requirements in message authentication?

3	Discuss two different techniques of transposition and substitution cryptographic techniques with examples.	10
4	Illustrate the working of digital certificate in PKIX model.	10
5	Discuss the RSA algorithm with example.	10
6	Explain single round DES algorithm.	10
7	Write short notes on (any two) a) VPN b) firewall c) Digital Signature d)Biometric Authentication	10

6TH SEM./ CSE /2022(S)

CST-605   Mobile Computing

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10

   a.   What do you understand by mobile computing?

   b.   List different obstacles occurred in mobile computing.

   c.   Write the acronym of the following
        i) SIM
        ii) CDMA
        iii) GSM

   d.   What do you mean by spectrum?

   e.   List the advantages of IR transmission.

   f.   What do you mean by Roaming?

   g.   What are the advantages of cellular system?

   h.   Define Hand off and Hand over.

   i.   List the supplementary services provided by GSM.

   j.   A _____ usually stores all the user-related data and info, and it
        is also relevant to the GSM mobile systems.

        a. SIM

        b. CMR

        c. HMR

        d. VLR

2.   Answer **Any Six** Questions   6 x 5

   a.   Discuss different protocols in WAP.

   b.   Explain working of Mobile IP.

   c.   Describe the working of TCP in mobile computing?

d. What are the advantages and disadvantages of WLAN?

e. What are the features of infrared transmission and where the infrared transmission used?

f. Differentiate between TDMA and CDMA.

g Define modulation. Explain the modulation technique used in now-a-days mobile computing.

3 Explain the WAP architecture with diagram.   10

4 Define multiplexing. Explain different multiplexing techniques.   10

5 Illustrate GMS architecture with diagram.   10

6 Describe the different generations of mobile computing.   10

7 Write short notes on: 10
   a) UMTS
   b) Bluetooth
   c) WLAN
   d) IEEE 802.11

6TH SEM./ CSE / 2022(S)

CST-605-MULTIMEDIA AND ANIMATION TECHNIQUE

Full Marks: 80   Time : 3 Hours

Answer any FIVE questions including **Q.Nos. 1** & **2**

Figures in the right hand margin indicates marks

1. Answer ALL the questions.   2X10
(a) What is storage media in multimedia? Give two examples.
(b) What do you mean by Orchestration?
(c) What is distributed multimedia system?
(d) Mention the use of Lasso tool in Flash?
(e) What is multimedia?
(f) Define synchronisation.
(g) Define animation.
(h) Define multimedia object server.
(i) Write the function of pen tool in Flash?
(j) What is AVI?

2. Answer any SIX questions.   (5X6)
(a) Explain evaluation of multimedia system and its types.
(b) What is compression? Explain different types of compression.
(c) What are the various components of Distributed Multimedia systems?
(d) Write short notes on Information access.
(e) Explain different video file formats.
(f) Differentiate between TIFF and RIFF.
(g) What are the object display playback issues for authoring system?

3. What are the input and output devices used for multimedia? Explain their features in brief.   10

4. What is the objective of JPEG? How it is differ from MPEG?   10

5. Define multimedia authoring system. Explain different types of multimedia authoring tools.   10

6. Explain the architecture of multimedia systems.   10

7. What is Flash? What are the different tools used in Flash. Explain in brief.   10

6TH SEM./ ETC/ 2022(S)

ETT604   Cloud Computing

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10
   a.   Define cloud computing.
   b.   What does Paas and Saas stand for?
   c.   Define on-demand functionality.
   d.   Differentiate distribution computing and cloud computing.
   e.   Name various types of clients in cloud computing technology.
   f.   Write down the examples of cloud storage.
   g.   What do you mean by open source and give examples of open source application?
   h.   How does API works?
   i.   Define community cloud.
   j.   What are the different models for deployment in cloud computing?

2.   Answer **Any Six** Questions   6 x 5
   a.   Explain the characteristics of cloud computing.
   b.   Write down the difference between Iaas, Paas and Saas.
   c.   Discuss various types of browsers in cloud computing.
   d.   Define web based calendars and explain any two web based calendar.
   e.   Explain the web based spread sheet.
   f.   Write a short note on Google App Engine.
   g   Write down the features of open stack.

3   Define Iaas and explain the characteristics of Iaas. Name the leading   10
        Iaas provider.
4   Describe about collaborating on event management application.   10
5   What is Microsoft Azure? Classify Azure clouds with its advantages   10
        and disadvantages and its key components.
6   Define open source clouds. Give few examples of open source   10
        clouds. Briefly explain the components of Eucalyptus with proper
        diagram.
7   Describe open nebula with its features. With neat diagram explain its   10
        architecture.

6TH SEM./APP ELEC & INSTRU ENGG/EEE/ ELECTRICAL/ ETE/ MECHANICAL/ 2022(S)
HMT 601   Entrepreneurship & Management

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10

   a. Define Company.
   b. Define Accounting.
   c. What is Break Even Analysis?
   d. What is Cash Book?
   e. What is Working Capital?
   f. What is Recruitment?
   g. Define Business?
   h. What is MSME?
   i. What is Sales Promotion?
   j. What is Project report?

2.   Answer **Any Six** Questions   6 x 5

   a. Distinguish between Bin card and Stores ledger?
   b. Explain the contents of a Preliminary Project Report.
   c. What is Advertisement? Explain various principals of Scientific Management.
   d. Distinguished between trial Balance and Balance sheet.
   e. Describe the different elements of cost.
   f. Explain about Marketing Mix.
   g   What are the steps of PPC?

3   Explain various methods of Training.   10
4   What is Scientific Management? Explain various Principles of Scientific Management.   10
5   Describe the different media of Advertisings.   10
6   Describe the duties and power of Factory inspector.   10
7   Explain the qualities of an entrepreneur.   10

TH1   Cryptography and Network security

Full Marks: 80   Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1.   Answer **All** questions   2 x 10

   a.   Differentiate between substitution technique and Transposition technique.

   b.   Define Rail Fence technique.

   c.   Where SSL layer is located in TCP/IP?

   d.   Define seed.

   e.   Write the problem associated with clear text password.

   f.   Define IP address spoofing

   g.   Define static web page and Dynamic web page.

   h.   What are the problems with symmetric key cryptography?

   i.   Define VPN.

   j.   Define Brute-force attack.

2.   Answer **Any Six** Questions   6 x 5

   a.   Discuss about different types of attack.

   b.   Difference between symmetric and asymmetric key cryptography.

   c.   Discuss the mechanism used by a RA for checking the user's proof of possession of the private key.

   d.   Discuss about screen host firewall, single-homed Bastion configuration.

   e.   Discuss about PKIX Services.

   f.   Discuss about Digital Envelop.

   g   Discuss about Authentication token.

3   Briefly Discuss about key principle of network security.   10
4   Define digital certificate. Write the step to create digital certificate.   10
5   Define SSL and discuss how SSL works?   10
6   Discuss about DES and how it works.   10
7   Explain about IP Security.   10