H.T No: | | | | | | | | | | | **R18** **Course Code: A30514**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VII Semester Supplementary Examinations April/May-2023

Course Name: COMPUTER NETWORKS

(Electronics & Communication Engineering)

Date: 27.04.2023 FN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1. Compare STP and USTP Cables. 2 M
2. Explain the functionalities of presentation Layer. 2 M
3. Explain the Design Issues of Data Link Layer. 2 M
4. Define Piggybacking. 2 M
5. Compare Uncasing & Multicasting. 2 M
6. Define Routing? Classify Routing Algorithms. 2 M
7. Explain in detail Segmentation in Transport Layer. 2 M
8. Compare Connection Establishment and Connection release. 2 M
9. Compare HTTP and SMTP. 2 M
10. Define Streaming audio. 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). Explain OSI network architecture and explain the functionalities of every layer in detail. 10M

OR

11. B). Illustrate different types of transmission media, highlight their merits and demerits. 10M

12. A). Demonstrate Stop –and-Wait ARQ protocol with an example. 10M

OR

12. B). Classify the multiple access protocols. Differentiate the Pure Aloha and Slotted Aloha in terms of efficiency and derive the equations. 10M

13. A). Explain about Dijkstra shortest path algorithm with an example. 10M

OR

13. B). What are the Quality of Service parameters in congestion control? Discuss. 10M

14. A). Explain in detail UDP with header Format. 10M

OR

14. B). Explain about the Connection Management in Transport Layer. 10M

15. A). What is an electronic mail? Describe with detailed explanation about sending and receiving e-mail. Justify How it is used as a tool for providing Communication. 10M

OR

15. B). Write Short notes on:
i) DNS 5M
ii) Client –Server Application 5M

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H.T No: | | | | | | | | | | | **R18** **Course Code: A30163**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VII Semester Supplementary Examinations April/May-2023

Course Name: AIR POLLUTION & CONTROL

(Common for EEE, ME, ECE, CSE & IT)

Date: 29.04.2023 FN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1.	Define Air Pollution.	2 M
2.	Broadly classify the air pollutants.	2 M
3.	Define turbulence.	2 M
4.	What is called temperature lapse rate?	2 M
5.	Differentiate Indoor air pollution from others.	2 M
6.	What is stack air pollution?	2 M
7.	List out the various control technique.	2 M
8.	Write a note on scrubbers.	2 M
9.	Discuss any one global episode as environmental issue.	2 M
10.	List out noise standards.	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Discuss in detail about the characterization of air pollutants.	10M
	OR	
11. B).	Explain the effects of air pollution on health.	10M
12. A).	Discuss in detail about Wind rose diagram.	10M
	OR	
12. B).	Explain about plume behavior in detail.	10M
13. A).	Discuss about Sampling of particulate pollutants.	10M
	OR	
13. B).	Explain about Gaussian dispersion model	10M
14. A).	Discuss in detail about settling chambers.	10M
	OR	
14. B).	Explain about cyclone separators.	10M
15. A).	How to control air pollution due to automobiles?	10M
	OR	
15. B).	Explain about environmental laws and acts.	10M

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H.T No: | | | | | | | | | | | **R18** | **Course Code: A30447**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VII Semester Supplementary Examinations April/May-2023

Course Name: EMBEDDED SYSTEM DESIGN

(Electronics & Communication Engineering)

Date: 02.05.2023 FN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)
Each question carries TWO marks. **10x2=20M**

1. Define Embedded systems. 2 M
2. What is the throughput and reliability? 2 M
3. Outline the concept of transistor-based relay driving circuit. 2 M
4. What is Universal Serial Bus? 2 M
5. Distinguish between SRAM, DRAM, and NVRAM. 2 M
6. What are the advantages of high level language-based development? 2 M
7. What is kernel? 2 M
8. Compare preemptive and non-preemptive multitasking scheduling schemes. 2 M
9. What is priority inheritance? 2 M
10. Define semaphore. 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). i) Distinguish between Embedded Systems and General computing systems. 5M
ii) Classify the embedded processing system based on generation evolved. Describe them. 5M

OR

11. B). Explain the operational and non-operational quality attributes of Embedded systems. 10M

12. A). Discuss the different types of memory with necessary diagrams. 10M

OR

12. B). Explain the different communication interfaces such as I2C bus, SPI bus, and UART. 10M

13. A). i) Explain the Reset circuit for embedded system design. 5M
ii) Explain watchdog timer with diagram. 5M

OR

13. B). Write down the sequence of operations which are involved in conversion of assembly language to machine language. 10M

(P.T.O.)

14. A). Explain the process and threads in RTOS based embedded system. 10M

OR

14. B). i) Three processes with process IDs P1, P2, P3 with estimated completion time 6, 4, 2 milliseconds respectively, enters the ready queue together in the order P1, P2, P3. Calculate the waiting time and turn around time for each process and the average waiting time and turn around time (no I/O waiting for the process) in RR algorithm with time slice = 2 ms. 5M

ii) Discuss shortest job first scheduling with example. 5M

15. A). Explain the concepts of shared memory and message passion communications in embedded system design. 10M

OR

15. B). Explain the different task synchronization techniques. 10M

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H.T No: | | | | | | | | | | | **R18** **Course Code: A30450**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VII Semester Supplementary Examinations April/May-2023

Course Name: REAL TIME OPERATING SYSTEMS

(Electronics & Communication Engineering)

Date: 04.05.2023 FN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1. Discuss about wait() functions. 2 M
2. Explain exit() function. 2 M
3. Mention the features of real time operating system. 2 M
4. Discuss the operations for task scheduling. 2 M
5. Summarize the classification of pipes. 2 M
6. Explain the building block command shell. 2 M
7. What are interrupts? 2 M
8. Discuss about programmable interrupt controller. 2 M
9. Mention the significance of µC-OS-II. 2 M
10. What is Android OS? 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). Briefly discuss about the file system calls of Unix operating system 10M

OR

11. B). Explain the process system calls fork() and vfork(). 10M

12. A). What is a scheduler? Explain in detail how the scheduler works. 10M

OR

12. B). i) Explain different states of message queue. 5M

ii) Discuss the ways in which the message queue can be used in an application. 5M

13. A). Explain in detail about Event registers. 10M

OR

13. B). Explain the following building blocks: 10M

i) TCP/IP protocol stack

ii) File system component

14. A). Summarize the classification of exceptions. 10M

OR

14. B). Explain A Model for Implementing the Soft-Timer Handling Facility. 10M

15. A). Distinguish between the commercial RTOSs µC-OS-II and RT-Linux. 10M

OR

15. B). Explain the features of VxWorks. 10M

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H.T No: | | | | | | | | | | | **R18** **Course Code: A30452**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VII Semester Supplementary Examinations April/May-2023

Course Name: SATELLITE COMMUNICATION

(Electronics & Communication Engineering)

Date: 06.05.2023 FN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1. Define satellite and its applications. 2 M
2. List the orbital parameters used for positioning a satellite. 2 M
3. How the attitude of a satellite controlled through active control? 2 M
4. What is EIRP of an antenna? 2 M
5. Categorize the Ionospheric effects on space link. 2 M
6. Assess the need of reference burst in TDMA. 2 M
7. Write about Dilution of Precision in GPS. 2 M
8. State the basic requirements of an earth station antenna. 2 M
9. Compile the limitations of FDMA-satellite access. 2 M
10. Compare Pure Aloha and Slotted Aloha. 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). Write the different types of satellite orbits and discuss their merits and demerits. 10M

OR

11. B). Discuss in detail about the orbital parameters like inclination, ascending node, semi major axis and eccentricity. 10M

12. A). Explain Telemetry, Tracking and Command system with suitable diagrams. 10M

OR

12. B). Examine how the attitude and orbit control system is achieved through spin stabilization systems? Give necessary diagrams. 10M

13. A). Describe about Rain induced attenuation with its effects. 10M

OR

13. B). Write the technical features of TDMA. Also draw the TDMA frame structure. 10M

14. A). Briefly explain about Power testing methods in Earth station Technology. 10M

OR

14. B). Discuss about Global Positioning System with its applications. 10M

15. A). Compare message transmission procedures of FDMA and TDMA. 10M

OR

15. B). Elaborate Satellite Packet switching methods with relevant diagrams. 10M

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H.T No: | | | | | | | | | | | **R18** **Course Code: A30554**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech VII Semester Supplementary Examinations April/May-2023
Course Name: JAVA PROGRAMMING
(Common for EEE, ME & ECE)

Date: 08.05.2023 FN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1. Use of JVM. 2 M
2. What are the differnt possibilities of creating of objects? 2 M
3. Use of "final" keyword in Java. 2 M
4. Types of Inheritance concept. 2 M
5. What is checked Exception? 2 M
6. Explain different Exception names which occur in general. 2 M
7. What are the methods used for start and execute the Thread? 2 M
8. What is the purpose of the sleep() method in Thread? 2 M
9. Which packages need to import to work with Files in Java? 2 M
10. Discuss different Streams in java files with sample. 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). Explain about Constructor Overloading and Method OverLoading with example. 10M

OR

11. B). What are the different access specifiers in Java, illustrate with example? 10M

12. A). Build a matrix multiplication program using Two-Dimensional Arrays. 10M

OR

12. B). Test about Command line arguments, find the highest value among the 3 command line arguments. 10M

13. A). Sample examine for creation of packages, accessing a package and hiding the classes. 10M

OR

13. B). What is nested try with example? Role of the "finally" key word Exception handling? 10M

14. A). What is difference between Process and Thread? How Thread is useful than Process? 10M

OR

14. B). Explain, Why Thread sleep() and yield() methods are static? 10M

15. A). What is the difference between BufferedReader and Scanner in Java with example? 10M

OR

15. B). When does java.io.FileNotFoundException: (Access is denied) comes? How do you fix that,illustrate with suitable example? 10M

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H.T No: | | | | | | | | | | | **R18** **Course Code: A30531**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VII Semester Supplementary Examinations April/May-2023

Course Name: PYTHON PROGRAMMING

(Common for all Branches)

Date: 08.05.2023 FN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1. List the basic data types available in Python with examples. 2 M
2. Mention any two limitations of Python. 2 M
3. Define recursion with an example. 2 M
4. Compare lists and array. 2 M
5. How will you update list items? Give one example. 2 M
6. Can functions return tuples? If yes give example. 2 M
7. What are instance variables, and what role does the name self play in the context of a class definition? 2 M
8. Explain what the __str__ method does and why it is a useful method to include in a class 2 M
9. Why does the blur function need to work with a copy of the original image? 2 M
10. What happens when you enter a number with a decimal point into an Integer Field? 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). Write about different types of python operators with example scripts. 10M

OR

11. B). Sketch the structures of interpreter and complier. Details the difference between them. Explain how python works in Interactive mode and script mode with examples. 10M

12. A). Write a program to determine the factorial of a given number with and without the use of recursion. 10M

OR

12. B). Write the syntax and explain the concept of 10M
   (i) recursive function with an example.
   (ii) lambda function with an example.

13. A). Write a function that takes a number as an input parameter and returns the corresponding text in words, for example, on input 452, the function should return 'Four Five Two'. Use a dictionary for mapping digits to their string representation. 10M

OR

13. B). Describe the following: 10M
   (i) Creating the list
   (ii) Accessing values in the lists
   (iii) Updating the list
   (iv) Deleting the list elements.

(P.T.O..)

14. A). i) Write a short notes on Special Class methods, with the help of an example explain the significance of the _init_() method. 5M

ii) Write a short notes on different built in attributes associated with a class. 5M

OR

14. B). Write a menu driven program that keeps record of books and journals available in a library. 10M

15. A). Write a line of code that adds a Float Field to a window, at position (1, 1) in the grid, with an initial value of 0.0, a width of 15, and a precision of 2. 10M

OR

15. B). Explain the turtle graphics with two dimensional shapes. 10M

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H.T No: | | | | | | | | | | | R18 | Course Code: A30555

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VII Semester Supplementary Examinations April/May-2023

Course Name: INTRODUCTION DATABASE MANAGEMENT SYSTEMS

(Common for EEE, ME & ECE)

Date: 08.05.2023 FN | Time: 3 hours | Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. 10x2=20M

1.	Identify the Difference between Traditional file Systems and DBMS.	2 M
2.	Classify the Aggregation Operations.	2 M
3.	Discuss the Referential Integrity.	2 M
4.	Interpret the Advantages and Disadvantages of VIEWS.	2 M
5.	Outline the Purpose of ANY and ALL in SQL.	2 M
6.	How to Sort Results in SQL?	2 M
7.	Determine the Control Statements in Advanced SQL.	2 M
8.	Identify the need of Cursors in SQL.	2 M
9.	Elaborate the Purpose of Normalization.	2 M
10.	Interview the Rule to be followed in 3NF.	2 M

PART-B

Answer the following. Each question carries TEN Marks. 5x10=50M

11.A).	i) Analyze the Unary Operations.	5M
	ii) Classify the Set Operations.	5M
	OR	
11. B).	i) Outline the SPARC Architecture.	5M
	ii) List the Join Operations.	5M
12. A).	Illustrate the Entry Integrity, Domain Constraints and General Constraints in SQL.	10M
	OR	
12. B).	i) Design the VIEW Materialization.	5M
	ii) Evaluate the Restrictions on VIEWS.	5M
13. A).	i) How to handle the Aggregate Functions?	5M
	ii) Write Sub queries in SQL.	5M
	OR	
13. B).	Outline how to Handle Multi-table Queries in SQL.	10M
14. A).	How to create functions in SQL explain with an example?	10M
	OR	
14. B).	What is a trigger? How to create it? Discuss various types of triggers.	10M
15. A).	Show the criteria how Normalization Supports Database Design.	10M
	OR	
15. B).	Elaborate about 2NF, 3NF and BCNF with suitable examples.	10M

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H.T No: | | | | | | | | | | | **R18** **Course Code: A30160**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VII Semester Supplementary Examinations April/May-2023

Course Name: DISASTER MANAGEMENT & MITIGATION

(Common for EEE, ME, ECE CSE & IT)

Date: 08.05.2023 FN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1. State different types of the disasters. 2 M
2. Define landscape approach. 2 M
3. Name the types of endogenous hazards. 2 M
4. Write on man induced disaster. 2 M
5. List three major causes of earth quakes occurred in India. 2 M
6. Briefly write on the occurrence of landslides. 2 M
7. Differentiate between cold wave and heat wave. 2 M
8. List the impacts of floods in India. 2 M
9. Write about the emergency stage of disaster management. 2 M
10. Give an insight on mitigation techniques of any one type of disaster. 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). Discuss about the environmental stress and concept of environmental hazard. 10M

OR

11. B). Explain in detail on human ecology and its application on geographical researches. 10M

12. A). Differentiate between man induced hazards and natural hazards. 10M

OR

12. B). Describe in detail about endogenous and exogenous hazards. 10M

13. A). Discuss the environmental impacts of volcanic eruptions. 10M

OR

13. B). Explain the distribution of earthquakes and methods to reduce effects of the earthquake. 10M

14. A). Write the methods of conservation measures for soil erosion. 10M

OR

14. B). Discuss in detail about chemical hazards and nuclear explosion. 10M

15. A). Explain the role of an engineer to reduce the effects of different disasters occurred in India. 10M

OR

15. B). Describe in detail the emerging approaches of disaster management and recommend some remedies to control the disasters. 10M

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