

H.T No:

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**R18**

Course Code: A30514



**CMR COLLEGE OF ENGINEERING & TECHNOLOGY**

(UGC AUTONOMOUS)

B.Tech VII Semester Regular/Supplementary Examinations December-2022

Course Name: **COMPUTER NETWORKS**

(**Electronics & Communication Engineering**)

Date: 06.12.2022 AN

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 Personal Area Network with Local Area Network. 2 M
2. What is guided media? Mention the examples for guided media. 2 M
3. What is piggybacking? 2 M
4. List out the design issues for data link layer. 2 M
5. What is datagram network? 2 M
6. What is flooding? 2 M
7. What are the functions of transport layer? 2 M
8. Compare the features TCP with UDP. 2 M
9. What are the functions of application layer? 2 M
10. What are the functions of SNMP? 2 M

**PART-B**

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Draw the neat sketch for OSI reference model. Describe the functionalities for each layer in the OSI reference model. 10M

**OR**

11. B). Describe the various wireless transmission in physical layer. 10M

12. A). What is framing? Describe with examples, the various framing methods. 10M

**OR**

12. B). Explain the various carrier sense multiple access protocols. 10M

13. A). Describe the distance vector routing algorithm. Also explain count-to-infinity problem with distance vector routing. 10M

**OR**

13. B). What is IPv4? Write the format of IPv4 header format with neat sketch and describe the purpose of various field in it. 10M

(P.T.O.)

14. A). Explain multiplexing and crash recovery in transport layer. 10M

**OR**

14. B). Describe the features of User Datagram Protocol (UDP). Write the formats of UDP header and the IPv4 pseudo header included in the UDP checksum. Describe the various fields in the headers. 10M

15. A). What is electronic mail? Discuss the architecture of email, the user agent and message formats. 10M

**OR**

15. B). What is world wide web? Discuss the architecture of www and HTML. 10M

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H.T No:

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**R18**

Course Code: A30557



**CMR COLLEGE OF ENGINEERING & TECHNOLOGY**  
(UGC AUTONOMOUS)

B.Tech VII Semester Regular/Supplementary Examinations December-2022

Course Name: **WEB PROGRAMMING**

(**Electronics & Communication Engineering**)

Date: 08.12.2022 AN

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. Write the difference between HTML and XHTML. 2 M
2. What are the core elements and attributes in HTML. 2 M
3. Define CSS. 2 M
4. Describe Page Layouts in CSS. 2 M
5. What is Form Validation in java script? 2 M
6. What are the loop statements in java script? 2 M
7. Write about DTD. 2 M
8. Discuss W3C XML Schema documents. 2 M
9. Differentiate Traditional web applications and Ajax web applications. 2 M
10. What is RIA? 2 M

**PART-B**

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). What is a frame? Explain different tags of frames with suitable examples. 10M
- OR**
11. B). Explain any 6 XHTML tags with examples. 10M
12. A). What are the different types of CSS? Explain. 10M
- OR**
12. B). Explain CSS properties with suitable example. 10M
13. A). Create a form for student information. Write a java script code to find total, average, result and grade of a student. 10M
- OR**
13. B). Explain different control statements in Java Script with an example. 10M
14. A). Compare XML schema and DTD. 10M
- OR**
14. B). Write in detail on DOM. 10M
15. A). Describe the history of Ajax. 10M
- OR**
15. B). Explain about Dojo Toolkit. 10M

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**R18**

Course Code: A30163



**CMR COLLEGE OF ENGINEERING & TECHNOLOGY**

(UGC AUTONOMOUS)

B.Tech VII Semester Regular/Supplementary Examinations December-2022

Course Name: AIR POLLUTION & CONTROL

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

Date: 08.12.2022 AN

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 Inversion. 2 M
2. Give any four examples for aerosols. 2 M
3. Write a note on Mixing height. 2 M
4. Discuss the terms wind direction & speed. 2 M
5. List out the difficulties encountered in sampling. 2 M
6. What is called mass spectrometric analysis? 2 M
7. Define efficiency of separating devices. 2 M
8. Write a note on dust trap. 2 M
9. Discuss exhaust emission. 2 M
10. List any four functions of state pollution control board. 2 M

**PART-B**

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Explain about Primary and Secondary air pollutants. 10M
- OR**
11. B). Summarize the influences of hydrogen fluoride & hydrogen chloride as air pollutants. 10M
12. A). Briefly explain about estimation of plume rise. 10M
- OR**
12. B). Elaborate secondary meteorological parameters that influence air pollution. 10M
13. A). Write a detailed note on Gaussian dispersion Models. 10M
- OR**
13. B). Explain about Adsorbers & Condensers– the sampling devices. 10M
14. A). Elaborate about mechanical scrubbers. 10M
- OR**
14. B). Summarize about Electrostatic Precipitator. 10M
15. A). Explain the significance of air pollution control area. 10M
- OR**
15. B). Brief about Environmental (Protection) Act 1986. 10M

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H.T No:

**R18**

Course Code: A30447



**CMR COLLEGE OF ENGINEERING & TECHNOLOGY**  
(UGC AUTONOMOUS)

B.Tech VII Semester Regular/Supplementary Examinations December-2022

Course Name: **EMBEDDED SYSTEM DESIGN**

(**Electronics & Communication Engineering**)

Date: 10.12.2022 AN

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. What is an embedded system? Give an example. 2 M
2. Outline the quality attributes of an embedded system. 2 M
3. Compare the RISC and CISC processors. 2 M
4. What is purpose of an actuator? 2 M
5. What is the principle of operation transistor based relay circuit? 2 M
6. What is the role of watch dog timer in embedded system? 2 M
7. Define soft real time system and give an example. 2 M
8. Outline the advantages of a thread. 2 M
9. Mention the various types of IPC mechanisms available in embedded system. 2 M
10. What is the significance of device driver in embedded system? 2 M

**PART-B**

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Compare an Embedded system with a general computing system by considering an example. 10M

**OR**

11. B). Explain the classification of an embedded system based on generation with an example for each. 10M

12. A). Explain the components of a typical embedded system in detail. 10M

**OR**

12. B). Explain the operation of Static RAM cell and list its merits and limitations. 10M

13. A). Explain in detail about the role of Reset and Brown-out circuits in Embedded system design. 10M

**OR**

13. B). What is embedded Firmware? Explain the various types of embedded firmware approaches available. 10M

14. A). Explain the architecture of an operating system. List the functions of an operating system. 10M

**OR**

14. B). Illustrate the structure of a process and discuss the memory organization of a process. 10M

15. A). Compare preemptive and non-preemptive scheduling algorithms with suitable examples. 10M

**OR**

15. B). Illustrate the use of sockets for process synchronization with an example. 10M

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**R18**

Course Code: A30450



**CMR COLLEGE OF ENGINEERING & TECHNOLOGY**  
(UGC AUTONOMOUS)

B.Tech VII Semester Regular/Supplementary Examinations December-2022

Course Name: REAL TIME OPERATING SYSTEMS

(Electronics & Communication Engineering)

Date: 13.12.2022 AN

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. Summarize the features of Unix OS. 2 M
2. Discuss about the Exit( ) functions in Unix Operating system. 2 M
3. Differentiate between general purpose operating system and real time operating system. 2 M
4. Discuss about the RTOS kernel objects. 2 M
5. Explain about event registers. 2 M
6. Mention the uses of signals. 2 M
7. Discuss about real time clocks and system clocks. 2 M
8. Mention the applications of exceptions and interrupts. 2 M
9. What is tiny OS? 2 M
10. How is RT Linux different from Linux operating system? 2 M

**PART-B**

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Explain about fork( ).With the help of a neat diagram explain about the sharing of open files between parent and child after fork() 10M
- OR**
11. B). Briefly discuss about the file system calls of Unix operating system. 10M
12. A). Define task. Explain about the task states and scheduling with the help of a neat diagram. 10M
- OR**
12. B). i) What is a semaphore? Explain in detail different types of semaphores. 5M  
ii) Explain how the priority inversion occurs and the methods to avoid it. 5M
13. A). Explain about the kernel object-PIPES in detail. 10M
- OR**
13. B). Explain the following building blocks:
  - i) TCP/IP protocol stack 5M
  - ii) Remote procedure call 5M
14. A). Classify the three areas in which exceptions and interrupts help the embedded engineer. 10M
- OR**
14. B). Explain about Programmable interval timers. 10M
15. A). Distinguish between the commercial RTOS like Android OS,  $\mu$ C-OS-II, 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 Regular/Supplementary Examinations December-2022

Course Name: **SATILLITE COMMUNICATION**

(Electronics & Communication Engineering)

Date: 15.12.2022 AN

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 kepler's first law. 2 M
2. Define uplink and downlink. 2 M
3. What is a transponder? 2 M
4. What is difference between GEO & MEO? 2 M
5. How rain effects satellite communications? 2 M
6. Define LNA. 2 M
7. What is meant by spot beam antenna? 2 M
8. What is importance of GPS? 2 M
9. What is three axis method and list its advantages and disadvantages? 2 M
10. Differentiate pure ALOHA and slotted ALOHA. 2 M

**PART-B**

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). List various satellite frequency bands and explain in detail about satellite applications. 10M
- OR**
11. B). Explain how a satellite is place in a geostationary orbit. 10M
12. A). Explain how TT&C subsystem works in satellite stabilization. 10M
- OR**
12. B). i) A satellite at a distance of 40 000 km from a point on the earth's surface radiates a power of 10W from an antenna with a gain of 17 dB in the direction of the observer. Find the flux density at the receiving point, and the power received by an earth station antenna at this point with an effective area of 10 m<sup>2</sup>. 5M
- ii) Explain in detail about system noise temperature and G/T ratio. 5M
13. A). Explain in detail about tropospheric and ionospheric scintillation. 10M
- OR**
13. B). Explain in detail about DAMA. 10M

(P.T.O.)

14. A). Draw the transmitter and receiver block diagrams of an earth station and explain its working. 10M

OR

14. B). Explain in detail about earth station tracking system. 10M

15. A). Explain in detail about tree algorithm with an example. 10M

OR

15. B). Explain in detail about message transmission in FDMA & M/G/1 Queue. 10M

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**R18**

Course Code: A30554



**CMR COLLEGE OF ENGINEERING & TECHNOLOGY**  
(UGC AUTONOMOUS)

B.Tech VII Semester Regular/Supplementary Examinations December-2022

Course Name: **JAVA PROGRAMMING**

(Common for MECH, EEE & ECE)

Date: 17.12.2022 AN

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 out Java Essentials. 2 M
2. Simplify Type conversion. 2 M
3. Illustrate the Command Line Arguments. 2 M
4. What are the uses of Super keyword? 2 M
5. Summarize the Wrapper class. 2 M
6. List of Exception handling techniques. 2 M
7. Define daemon thread. 2 M
8. What is Synchronization? 2 M
9. Elaborate the Scanner class. 2 M
10. How to use BufferedInputStream class? 2 M

**PART-B**

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Briefly explain the features of java. Make a Java program that determines whether a given integer is even or odd. 10M

**OR**

11. B). Define Constructor. Discuss the various types of constructors in java programming. 10M

12. A). What are the different types of inheritance? Give an example to illustrate how to utilise the Super keyword in inheritance. 10M

**OR**

12. B). Write examples of various array types. Create a Java program to determine multiplication of two matrices. 10M

13. A). Classify the String and StringBuffer classes. Explain methods of String class with suitable example program. 10M

**OR**

13. B). What is exception handling? How multiple exceptions are caught? Write a java program to demonstrate the use of user defined exception. 10M

14. A). Explain the thread priorities. Demonstrate with the help of example that how we set priorities in threads. 10M

**OR**

14. B). Define a Thread. Describe the thread's life cycle with a neat diagram. 10M

(P.T.O..)

15. A). Write a Java program that will read records from the file and copy one file to another file. 10M

**OR**

15. B). Write short notes on:

- i) FileInputStream 5M
- ii) FileOutputStream 5M

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**R18**

Course Code: A30531



**CMR COLLEGE OF ENGINEERING & TECHNOLOGY**  
(UGC AUTONOMOUS)

B.Tech VII Semester Regular/Supplementary Examinations December-2022

Course Name: PYTHON PROGRAMMING

(Common for CIVIL, EEE, MECH, ECE & CSE)

Date: 17.12.2022 AN

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. What is indentation?  | 2 M |
| 2. What operators does python support?                                 | 2 M |
| 3. What is Chained Conditional statement? Give Example.                | 2 M |
| 4. Point out the difference between recursive and iterative technique. | 2 M |
| 5. Describe List Slicing with example.                                 | 2 M |
| 6. How a tuple is iterated? Explain with an example?                   | 2 M |
| 7. How can you copy an object in Python? Illustrate with an example?   | 2 M |
| 8. How will you check if a class is a child of another class?          | 2 M |
| 9. Compare Terminal-based user interfaces and GUIs.                    | 2 M |
| 10. How to create Label Widget in Python?                              | 2 M |

**PART-B**

Answer the following. Each question carries TEN Marks.

5x10=50M

- |  |     |
|--|-----|
| 11.A). Summarize various operators, built-in functions and standard library modules that deals with Python's numeric type. | 10M |
| <b>OR</b>  |     |
| 11. B). What is the purpose of else clause for a loop? Explain how else works with while and for loops, with examples.     | 10M |
| 12. A). Explain about different types of arguments in Python. Write a function to generate cubes of numbers over time.     | 10M |
| <b>OR</b>  |     |
| 12. B). Explain the file built-in functions and methods with clear syntax, description and illustration.                   | 10M |
| 13. A). i) Demonstrate how to create and print a 3-dimensional matrix with lists.  | 5M  |
| ii) Write a Python program that counts the number of occurrences of a letter in a string, using dictionaries.              | 5M  |
| <b>OR</b>  |     |
| 13. B). Give a comparison between lists, tuples, dictionaries and sets.  | 10M |

(P.T.O..)

14. A). Explain how to implement different types of inheritance in Python with example. 10M

**OR**

14. B). Describe how the arithmetic operators can be overloaded to work with a new class of numbers. 10M

15. A). Develop a Python program that creates a GUI with a textbox, Ok button and Quit button. On clicking Ok, the text entered in textbox is to be printed in Python shell; on clicking Quit, the program should terminate. 10M

**OR**

15. B). Explain the Turtle Graphics Basic commands and drawing different shapes on screen with example. 10M

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**R18**

Course Code: A30555



**CMR COLLEGE OF ENGINEERING & TECHNOLOGY**  
(UGC AUTONOMOUS)

B.Tech VII Semester Regular/Supplementary Examinations December-2022

**Course Name: INTRODUCTION DATABASE MANAGEMENT SYSTEMS**

**(Common for MECH, EEE & ECE)**

Date: 17.12.2022 AN

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. What is JOIN operation and mention their types?                                 | 2 M |
| 2. What is Data Abstraction in DBMS?   | 2 M |
| 3. List the various data types supported by SQL.                                   | 2 M |
| 4. What are the advantages and disadvantages of views in a database?               | 2 M |
| 5. Distinguish between EXISTS and NOT EXISTS.                                      | 2 M |
| 6. Explain about any two SQL Aggregate Functions.                                  | 2 M |
| 7. What is Exception and write the types?  | 2 M |
| 8. What are Packages?  | 2 M |
| 9. Explain about functional dependency.  | 2 M |
| 10. What are the various update anomalies that can arise in a relational database? | 2 M |

**PART-B**

**Answer the following. Each question carries TEN Marks.**

**5x10=50M**

- |  |     |
|--|-----|
| 11.A). With a neat diagram describe the overall system structure of DBMS.  | 10M |
| <b>OR</b>  |     |
| 11. B). What are the basic operations used in relational algebra? Explain with examples.   | 10M |
| 12. A). What is the use of constraints? What are the different types of constraints that can be specified? Explain with examples.  | 10M |
| <b>OR</b>  |     |
| 12. B). Explain the following commands with examples:<br>i) Alter Table, ii) Drop Table, iii) Truncate & iv) Create  | 10M |
| 13. A). Give syntax for DML commands? Show their operations with an example.   | 10M |
| <b>OR</b>  |     |
| 13. B). What is a Query? Consider the following database schema to write queries in SQL<br>Supplier (id, name, city)<br>Parts (pno, pname, pdescription)<br>Supply (id, pno, cost)<br>i) Find the names of the parts supplied by "Kumar"<br>ii) Find the names of the suppliers who supply "Nuts"<br>iii) Find the cost of bolts being supplied by Mumbai suppliers. | 10M |

*(P.T.O..)*

14. A). What is a Cursor? Explain the types of Cursors with suitable example(s)? 10M

**OR**

14. B). What is a Function? Write its syntax and example function to calculate factorial of a given number. 10M

15. A). What is normalization? Explain 1NF, 2NF and 3NF with example for each. 10M

**OR**

15. B). What do you mean by decomposition of a relation? Why is it required? Discuss the three desirable properties of decomposition. 10M

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H.T No:

**R18**

Course Code: A30160



**CMR COLLEGE OF ENGINEERING & TECHNOLOGY**  
(UGC AUTONOMOUS)

B.Tech VII Semester Regular/Supplementary Examinations December-2022

Course Name: **DISASTER MANAGEMENT & MITIGATION**

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

Date: 17.12.2022 AN

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 environmental hazard. 2 M
2. Mention about the approaches related to human ecology. 2 M
3. Give examples of Man induced hazards. 2 M
4. Differentiate Endogenous and Exogenous hazards. 2 M
5. State the hazardous effects of volcanoes. 2 M
6. Draw different forms of lightning. 2 M
7. List out the monitoring systems used for tracing the path of cyclones 2 M
8. Identify the Flood hazard status in India 2 M
9. Define the term Rehabilitation. 2 M
10. Write a short note on an emergency stage in disaster management. 2 M

**PART-B**

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). i) Distinguish between Environmental stress, hazard and disaster. 5M  
ii) Describe Ecosystem approach to mitigate environmental stress. In what way it is different from the perception approach? 5M
- OR**
11. B). Human perception changes with environmental degradation. Justify the statement. 10M
12. A). Explain how man-made hazards trigger the natural hazards 10M
- OR**
12. B). Explain different types of Endogenous hazards. 10M
13. A). Summarize about volcanic eruptions impacts on environment 10M
- OR**
13. B). Explain the reason behind Zones of earthquake occurrence in India. List out various hazardous effects of earthquakes. 10M
14. A). i) Mention the causes of drought and the mitigation measures. 5M  
ii) Explain the relation between environmental hazard and ecology with respect to drought. 5M
- OR**
14. B). State the factors influencing the soil erosion along with different methods of conservation measures. 10M

(P.T.O..)

15. A). i) Illustrate the considerations related to the disaster management of human resources during the COVID-19 pandemic. 5M  
ii) Write few implementations required in such emergency situations with disaster response team 5M

**OR**

15. B). Differentiate rescue and preparedness. Explain pre disaster measures that would have reduced the impact of land slide disaster. 10M

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