

H.T No:

--	--	--	--	--	--	--	--	--	--

R22



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

Examination : M.Tech II (Ph.D Course Work) Semester Regular Examinations August-2025
Course Name : Advanced Algorithms
Course Code : B458304
Branch : Computer Science & Engineering
Date & Session : 25-08-2025 AN **Duration: 3 hours** **Max. Marks: 60**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions
Each question carries ONE mark.

10x1=10M

1. What is an accounting method? 1 M
2. In which case the Quick sort will exhibit worst case time complexity? 1 M
3. What is an independent set in a matroid? 1 M
4. Define graph matching. 1 M
5. What is the inverse of a triangular matrix, and what is its structure? 1 M
6. Define the maximum flow problem and its constraints. 1 M
7. What is the difference between base representation and modulo representation of a number? 1 M
8. What is the Discrete Fourier Transform (DFT) in a modulo ring? 1 M
9. List recently proposed data structures used to enhance modern searching or sorting techniques. 1 M
10. Define feasible region. 1 M

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). What is Topological sorting? Illustrate topological sorting with algorithm. 10M
- OR**
11. B). Differentiate graph traversing techniques with algorithm. 10M
12. A). Define a graphic matroid and describe how it relates to spanning trees. 10M
- OR**
12. B). Write an algorithm to find out maximum matching in graphs. 10M
13. A). i) Differentiate between maximum flows and minimum cuts in a graph. 5M
ii) Describe the Ford-Fulkerson method for computing the maximum flow in a flow network. 5M
- OR**
13. B). Describe the relation between time complexities of basic matrix operations. 10M
14. A). Explain How to find out path matrix with warshall algorithm. 10M
- OR**
14. B). Explain following: i) Chinese Remainder Theorem. 5M
ii) Fast Fourier transform algorithm. 5M

(P.T.O.)

15. A). Describe proof of NP-hardness and NP-completeness. 10M

OR

15. B). Explain the concept of the feasibility region in linear programming and how geometry helps in solving linear programming problems using algorithms like the Simplex method. 10M

H.T No:

--	--	--	--	--	--	--	--	--	--

R22



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

Examination : M.Tech II (Ph.D Course Work) Semester Regular Examinations August-2025
Course Name : Robotic Process Automation
Course Code : B458412
Branch : Computer Science & Engineering
Date & Session : 02-09-2025 AN **Duration: 3 hours** **Max. Marks: 60**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions
Each question carries ONE mark.

10x1=10M

1. Define the Robotics Processes Automation. 1 M
2. What are the ways to create a bot? 1 M
3. Find an important web control room in RPA. 1 M
4. Justify the RPA is satisfying for current industry requirement? 1 M
5. List out some important functions of devices in the RPA. 1 M
6. Summarize roles of the administration. 1 M
7. How the task editor utilized in bots creations? 1 M
8. Mention the functions of loop and excel command. 1 M
9. Describe the terminal emulator commands. 1 M
10. Illustrate the Manage windows control command. 1 M

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Describe bot creation introduction to RPA and how its implementation. 10M
- OR**
11. B). Demonstrate, use cases of automation anywhere enterprise platform. 10M
12. A). Identify and understand features panel and dashboard of Web Control Room and client introduction. 10M
- OR**
12. B). Illustrate how the bots can audit and features panel activity (view tasks in progress and scheduled tasks). 10M
13. A). Understand how to handle audit log and administration. 10M
- OR**
13. B). Importance in the client introduction and conclusion. 10M
14. A). What is the processes of various recorders and task editor? 10M
- OR**
14. B). How to using variables, command library, loop command and excel command? 10M
15. A). Discuss the FTP command, PGP command and object cloning command. 10M
- OR**
15. B). Explain an error handling command and report designer. 10M

H.T No:

--	--	--	--	--	--	--	--	--	--

R22



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

Examination : M.Tech II (Ph.D Course Work) Semester Regular Examinations August-2025
Course Name : Advanced Computer Architecture
Course Code : B458305
Branch : Computer Science & Engineering
Date & Session : 04-09-2025 AN **Duration: 3 hours** **Max. Marks: 60**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions
Each question carries ONE mark.

10x1=10M

1. Explain the concept of "conditions of parallelism". 1 M
2. Explain SIMD computer models. 1 M
3. List the applications relevant to parallel processing. 1 M
4. Explain Amdahl's Law and its significance. 1 M
5. Explain the concept of pipelining. 1 M
6. What is superscalar pipeline design? 1 M
7. Define cache coherence in multiprocessors. 1 M
8. Explain message-passing mechanisms. 1 M
9. What is vector processing? 1 M
10. Describe the organization of SIMD computers. 1 M

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Compare and contrast multiprocessors and multicomputer. 10M
- OR**
11. B). Explain the different system interconnect architectures. 10M
12. A). Explain principles of scalable performance and their applications. 10M
- OR**
12. B). Discuss advanced processor technologies with examples. 10M
13. A). Design an arithmetic pipeline for a specific operation. 10M
- OR**
13. B). Explain pipelining techniques and how they improve performance. 10M
14. A). Describe the evolution of multicomputers through the three generations. 10M
- OR**
14. B). Evaluate the suitability of different interconnects for specific parallel applications. 10M
15. A). Describe the architecture and operation of the connection machine CM-5. 10M
- OR**
15. B). Evaluate the suitability of vector processing for different types of applications. 10M

H.T No:

--	--	--	--	--	--	--	--	--	--

R22



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

Examination : M.Tech II (Ph.D Course Work) Semester Regular Examinations August-2025
Course Name : Enterprise Cloud Concepts
Course Code : B458407
Branch : Computer Science & Engineering
Date & Session : 08-09-2025 AN **Duration: 3 hours** **Max. Marks: 60**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries ONE mark.

10x1=10M

1. What are the primary goals of cloud computing? 1 M
2. Name any one cloud deployment model. 1 M
3. State one benefit of virtualization in cloud. 1 M
4. List any one component of cloud infrastructure mechanism. 1 M
5. What is remote administration? 1 M
6. What is dynamic scalability? 1 M
7. Mention one advantage of cloud in enterprise digital transformation. 1 M
8. State one implication of cloud on enterprise strategy. 1 M
9. Name one key feature of next-generation cloud services. 1 M
10. What is the role of cloud infrastructure solutions? 1 M

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Analyze the roles and boundaries in cloud computing with appropriate illustrations. 10M
- OR**
- 11.B). Explain the origins and historical influences that led to the emergence of cloud computing. 10M
- 12.A). Describe different types of virtualization technology and their role in cloud computing. 10M
- OR**
- 12.B). Explain the significance of cloud storage device in the cloud environment. 10M
- 13.A). Elaborate on SLA management and its importance in a cloud computing environment. 10M
- OR**
- 13.B). Describe cloud architecture patterns with respect to service load balancing and resource pooling. 10M
- 14.A). Analyze the enabling mechanisms of smart enterprises and their benefits. 10M
- OR**
- 14.B). Explain how cloud computing transforms enterprise strategy with relevant examples. 10M
- 15.A). Elaborate on Cloud-Instigated IT Transformations. How do these transformations impact traditional enterprise architecture and operations? 10M
- OR**
- 15.B). Evaluate the role of hybrid and enterprise clouds in meeting evolving business and compliance needs. 10M
