



Dr. J. J. Magdum College of Engineering

Information Technology [2025-26]

OS I

Subject : Operating System-I - Theory **Faculty :** SEEMA BANDGAR

Year : Third Year - Sem V **Marks :** 30 **Date :** 3 September, 2025 **Duration :** 60 Minutes

Instructions

- Figures to the right indicate full marks.
- Draw neat diagram wherever necessary.
- Assume suitable data if necessary, stating it clearly.

Sr.No.	Question	Marks	Course Outcome	Blooms Level	Performance Indicator
1	Solve Following MCQ(1 Mark each Qu)				
1.1	What is operating system? a. collection of programs that manages hardware resources b. system service provider to the application programs c. link to interface the hardware and application programs d. all of the mentioned	1.00	CO2	Create	1.2.1
1.2	Which one of the following error will be handle by the operating system? a. power failure b. lack of paper in printer c. connection failure in the network d. all of the mentioned	1.00	CO2	Evaluate	2.5.1
1.3	To access the services of operating system, the interface is provided by the a. System calls b. API c. Library d. Assembly instructions	1.00	CO2	Create	1.7.1
1.4	Which one of the following is not true? a. kernel is the program that constitutes the central core of the operating system b. kernel is the first part of operating system to load into memory during booting c. kernel is made of various modules which can not be loaded in running operating system d. kernel remains in the memory during the entire computer session	1.00	CO2	Evaluate	1.6.1
1.5	A Process Control Block(PCB) does not contain which of the following a. Code b. Stack c. Bootstrap program d. Data	1.00	CO5	Create	1.7.1
1.6	Process is a. program in High level language kept on disk b. contents of main memory c. a program in execution d. None of the above	1.00	CO5	Create	1.7.1

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Firefox

<https://portal.vmedulife.com/faculty/Outcome/viewQuestionPaper...>

2	Attempt any 3(8 Marks Each)				
2.1	Explain user and kernels modes of operation in OS	8.00	CO2	Evaluate	1.7.1
2.2	Describe any five OS services	8.00	CO2	Evaluate	1.7.1
2.3	Explain Various states of process	8.00	CO5	Evaluate	1.7.1
2.4	Explain SJF scheduling algorithm with example	8.00	CO5	Analyze	1.7.1



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Information Technology [2025-26]

CIE-I

Subject : Database Engineering - Theory Faculty : PRANOTI TAMGAVE

Year : Third Year - Sem V Marks : 30 Date : 3 September, 2025 Duration : 60 Minutes

- Figures to the right indicate full marks.
- Draw neat diagram wherever necessary.
- Assume suitable data if necessary, stating it clearly.

Sr.No.	Question	Marks	Course Outcome	Blooms Level	Performance Indicator
1	Solve following MCQs(1 Marks Each)				
1.1	The ability to query data, as well as insert, delete, and alter tuples, is offered by _____ a. TCL (Transaction Control Language) b. DCL (Data Control Language) c. DDL (Data Definition Language) d. DML (Data Manipulation Language)	1.00	CO1	Apply	1.7.1
1.2	Which command is used to remove a relation from an SQL? a. Drop table b. Delete c. Purge d. Remove	1.00	CO1	Analyze	2.6.4
1.3	What is the function of the following command? Delete from r where P; a. Clears entries from relation b. Deletes relation c. Deletes particular tuple from relation d. All of the mentioned	1.00	CO1	Understand	1.7.1 3.6.1
1.4	The key is the one in which the primary of one relation is referenced to another relation is called a. primary key b. foreign key c. candidate key d. concatenate key	1.00	CO2	Understand, Remember	1.7.1
1.5	Which of the following is not Armstrong's Axiom? a. Reflexivity rule b. Transitivity rule c. Pseudotransitivity rule d. Augmentation rule	1.00	CO2	Understand, Remember	2.6.4

1.6 There are two functional dependencies with the same set of attributes on the left side of the arrow:

A → BC

A → B

This can be combined as

a. A → BC

b. A → B

c. B → C

d. None of the mentioned

1.00 CO2

Analyze, Understand

2.6.2

2 Attempt any 3 (8 marks Each)

2.1 What is ER Model? Explain with example of any organization

8.00 CO2

Understand, Remember

3.6.1

2.2 Explain overall system structure of DBMS with neat diagram

8.00 CO1

Evaluate, Understand

1.7.1, 4.6.2

2.3 What is Relational Algebra? Explain its types

8.00 CO1

Evaluate, Understand, Remember

2.6.4, 4.6.2

2.4 Explain what are the different types of join operation with an example

8.00 CO1

Evaluate, Understand, Remember

1.7.1



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Information Technology [2025-26]

CIE-I

Subject : Computer algorithm - Theory **Faculty :** JAYASHREE PATIL

Year : Third Year - Sem V **Marks :** 30 **Date :** 3 September, 2025 **Duration :** 60 Minutes

- First Question Compulsory.
- Attempt any three in Second Question
- Figures to the right indicate full marks.

Sr.No.	Question	Marks	Course Outcome	Blooms Level	Performance Indicator
1	Q.A Solve Following MCQs (1 Mark each)				
1.1	An algorithm is a. A piece of code to be executed. b. A loosely written code to make final code. c. A step by step procedure to solve problem. d. All of the above.	1.00	CO1	Understand	1.1
1.2	The time that depends on the input: an already sorted sequence that is easier to sort. a. Process b. Evaluation c. Running d. Input	1.00	CO1	Understand	1.2
1.3	Apply divide and conquer to sort the array [15, 3, 8, 12]. After the first partition step of Quick Sort (choosing 12 as pivot), what will be the left and right subarrays? a. Left= [3,8] , Right= [15] b. Left= [8,3] , Right= [15] c. Left= [8,3] , Right= [12] d. Left= [15,3] , Right= [8]	1.00	CO2	Apply	2.1
1.4	Why does Merge Sort have a time complexity of $O(n \log n)$? a. Because it always divides the array into halves and merge them b. Because it sorts by comparing adjacent elements only c. Because it never divides the array d. Because it requires no merging	1.00	CO2	Understand	1.3
1.5	What is the fundamental principle of a greedy algorithm? a. It explores all possible solutions to find the optimal one. b. It makes locally optimal choices at each step with the hope of finding a global optimum. c. It reconsiders previous decisions based on future outcomes. d. It uses backtracking to ensure all possibilities are covered.	1.00	CO2	Understand	1.4
1.6	Which of the following problems can be solved optimally using a Greedy approach? a. 0/1 Knapsack Problem b. Minimum Spanning Tree (Prim's/Kruskal's Algorithm) c. Longest Common Subsequence d. Travelling Salesman Problem	1.00	CO3	Apply	2.2
2	Q.B Attempt any three (8 Marks each)				



2.1	What is performance measurement? Explain space and time complexity with suitable examples. Determine the time and space complexity of the following code: <pre> for (int i=0; i<n; i++) { for (int j=0; j<n; j++) { cout << i+j; } } </pre>	8.00	CO1,CO2	Apply,Understand	2.3
2.2	Explain Merge sort algorithm with suitable example. Prove that complexity of merge sort is $O(n \log n)$.	8.00	CO2	Analyze,Understand	2.4
2.3	Explain binary search algorithm with suitable example. Prove that time complexity of binary search is $O(\log n)$.	8.00	CO2	Analyze	2.5
2.4	Solve the following instances of knapsack problem using greedy approach. $n=6, m=20, (P1, P2, P3, P4, P5, P6) = (12, 5, 15, 7, 6, 18), (w1, w2, w3, w4, w5, w6) = (2, 3, 5, 7, 1, 5)$.	8.00	CO3	Apply	3.1



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Information Technology [2025-26]

IoT CIE 1

Subject : IOT - Theory **Faculty :** MANASWI LATTHE **Batch :** No data available

Year : Third Year - Sem V **Marks :** 30 **Date :** NaN undefined, NaN **Duration :** 0 Minutes

Solve the following MCQ's

Sr.No. Question	Marks	Course Outcome	Blooms Level	Performance Indicator
1 _____ supports low energy radio operation. a. IETF 6LoWPAN b. IEFT CoAP c. RFID/NFC d. Bluetooth	1.00		Evaluate	1.7.1
2 _____ tags, devices, smart phones useful in identification. a. IETF 6LoWPAN b. IEFT CoAP c. RFID/NFC d. IEEE 802.15.4.LoWPAN	1.00		Apply	1.7.1
3 Which protocol is used to link all the devices in the IoT? a. TCP/IP b. Network c. UDP d. HTTP	1.00		Apply,Remember	1.7.1
4 WSN stands for _____ a. Wired Sensor Network b. Wireless Sensor Network c. Wired Service Network d. Wireless Service Network	1.00		Understand	1.6.1
5 The use of RFID in product logistics may realize automatic acquisition of logistics information. a. True b. False	1.00		Apply	2.1.1
6 Which technology is commonly used for short-range IoT communication? a. Wi-Fi b. Bluetooth c. Zigbee d. Both b and c	1.00		Apply,Remember	1.7.1
7 Solve any three Explain the applications of IoT	8.00		Create,Evaluate,Apply,Understand	3.6.2
8 Explain satellite technology	8.00		Evaluate,Understand,Remember	1.5.1
9 Explain key IoT Technologies	8.00		Evaluate,Understand	5.4.1

8/26/25, 10:17 AM



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Year : Third Year - Sem V **Marks :** 30 **Date :** NaN undefined, NaN **Duration :** 0 Minutes

Solve the following MCQ's

Sr.No. Question

Marks Course
Outcome

Blooms Level

Performance
Indicator

8.00

Evaluate, Understand

6.4.1

10 Explain IoT security and privacy



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Information Technology [2025-26]

SP CIE 1

Subject : System Programming - Theory Faculty : MANASWI LATTHE

Year : Third Year - Sem V Marks : 30 Date : NaN undefined, NaN Duration : 0 Minutes

Solve the given MCQ questions

Sl.No. Question	Marks	Course Outcome	Blooms Level	Performance Indicator
1 A __ is a program that takes as input a program written in one programming language and produces as output a program in another language. a. Language translator b. translator c. interpreter d. compiler	1.00	2	Understand	1.21
2 the designer expresses the ideas in terms related to the __ a. application domain b. execution domain c. all of the above d. none of the above	1.00	2	Understand	1.61
3 to implement the ideas, their description has to be interpreted in terms related to the __ a. application domain b. execution domain c. all of the above d. none of the above	1.00	3	Understand	1.61
4 the semantic gap has many consequences like __ a. large development time b. large development efforts c. poor quality of software d. all of the above	1.00	3	Understand	2.51
5 PLs stands for a. procedure languages b. Programming languages c. periodic languages d. none of the above	1.00	2	Understand, Remember	1.11
6 software implementation using a PL introduces a new domain __ a. application domain b. execution domain c. all of the above d. PL domain	1.00	3	Understand, Remember	1.21





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SP CIE 1

Subject : System Programming - Theory **Faculty :** MANASWI LATTHE

Year : Third Year - Sem V **Marks :** 30 **Date :** NaN undefined, NaN **Duration :** 0 Minutes

Solve the given MCQ questions

St.No.	Question	Marks	Course Outcome	Blooms Level	Performance Indicator
7	Solve any three Explain language processing activities	8.00	2	Create, Evaluate, Apply, Understand	1.7.1
8	Explain phases of language processor	8.00	2	Evaluate, Understand	1.7.1
9	Explain data structure for assembler pass I	8.00	3	Create, Evaluate, Understand	1.7.1
10	Explain macro definition and call.	8.00	2	Evaluate, Understand	1.7.1