



**Shri Shankaracharya Institute of Professional Management & Technology**

**Department of Computer Science & Engineering**

Class Test – I Session- Jan– June, 2022 Month-April

Sem- CSE 6<sup>th</sup> Subject- Internet of Things(Professional Elective-II) Code-C022632(022)

Time Allowed: 2 hrs Max Marks: 40

Note: - 1. PART I is Compulsory and Attempt any 4 questions from PART 2.

2. Each question of PART I carries 2 Marks and 8 marks for PART 2.

Q.N.	Questions	Marks	Levels of Bloom's taxonomy	COs
<b>PART I</b>				
	Identify among the following which is not a fundamental component of IoT system.			
Q1	A. User interface B. Transformers C. Sensors D. Connectivity and data processing	[2]	Remembering	CO1
Q2	Discuss the Application areas of IoT	[2]	Remembering	CO1
Q3	Define M2M Transmission	[2]	Remembering	CO1
Q4	Discuss Bluetooth in brief	[2]	Remembering	CO2
<b>PART II</b>				
Q1	Briefly Explain IoT and discuss its challenges and application areas	[8]	Understanding	CO1
Q2	Differentiate MQTT and AMQP Protocols with example	[8]	Analyzing	CO2
Q3	Compare IPV4 and IPV6 Protocols with Suitable Examples	[8]	Analyzing	CO2
Q4	Discuss the use of Cloud nad Big data in IoT	[8]	Understanding	CO1
Q5	Give a focus on IEEE 802.15.4 and Zigbee protocols with proper diagram	[8]	Understanding	CO2



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Department of Computer Science & Engineering  
Class Test – I Session- Jan – June, 2022 Month-April

Sem- CSE 6<sup>th</sup>, Subject-Artificial Intelligence & Expert Systems Code-CO22613(022)

Time Allowed: 2 hrs

Max Marks: 40

Note : - 1. All Question from PART I and PART II is Compulsory.  
2. Each question of PART I carries 2 Marks and 8 marks for PART II.

Q.N.	Questions	Marks	Levels of Bloom's taxonomy	COs
PART I				
1.	Define precise definition of AI.	[2]	Remembering	CO1
2.	Explain Propositional Knowledge.	[2]	Understanding	CO2
3.	What are the difference between forward and backward reasoning? ?	[2]	Analyzing	CO2
4.	Illustrate the performance issue of dept-first and breadth-first search technique.	[2]	Applying	CO1
PART II				
Trade the constraint satisfaction procedure for solving SEND + MORE = MONEY				
1.		[8]	Applying	CO1
2.	Explain the A* Algorithm with suitable example.	[8]	Understanding	CO1
Apply Resolution on below statement with explain :				
3.	a. John likes all kind of food. b. Apple and vegetable are food c. Anything anyone eats and not killed is food. d. Anil eats peanuts and still alive e. Harry eats everything that Anil eats. Prove by resolution that: f. John likes peanuts	[8]	Applying	CO2
4.	Describe Bysean Networks.	[8]	Remembering	CO2



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Department of Computer Science & Engineering  
Class Test – I Session- Jan – June, 2022 Month-April

Sem - CSE 6<sup>th</sup> (Section A & B)

Subject- Software Engineering & Project Management(SEPM) Code- 322654(22)

Time Allowed: 2 hrs Max Marks: 40

Note: - Attempt any two questions from (c),(d) and (e) and question (a) and (b) is mandatory of each part. Internal choices are also given.

Q.N.	Questions	Marks	Levels of Bloom's taxonomy	
				Cos
<b>PART I</b>				
Q1(a)	"Software doesn't wear out". Justify your answer with a diagram.	[2]	Understanding	CO1
Q1(b)	Mention at least two reasons as to why classical waterfall model can be considered impractical and cannot be used in real projects	[2]	Understanding	CO1
Q1(c)	Sketch a neat diagram of increment process model. Also list out its characteristics.	[8]	Applying	CO1
Q1(d)	Describe a layered technology for a process framework in details.	[8]	Remembering	CO1
Q1(e)	State the activities carried out during each phase of a spiral model. Identify circumstances under which spiral model should be used for software development.	[8]	Understanding	CO1
<b>PART II</b>				
Q2(a)	Draw the context diagram of "Student Information System" problem.	[2]	Understanding	CO2
Q2(b)	List out four important properties of good SRS document.	[2]	Remembering	CO2
Q2(c)	Identify functional and non-functional requirements from any given problem description.	[8]	Understanding	CO2
Q2(d)	Discuss the crucial process steps of requirement engineering ? Explain with the help of a diagram.	[8]	Understanding	CO2
Q2(e)	Identify the purpose of use-cases. Represent use cases model for a library information system.	[8]	Understanding	CO2



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Department of Computer Science & Engineering  
Class Test – I Session- Jan – June, 2022 Month-April

Sem - CSE 6<sup>th</sup> (Section A & B)

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Time Allowed: 2 hrs Max Marks: 40

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Class Test – I Session- Jan – June, 2022 Month-April.

Sem- CSE 6<sup>th</sup>, Subject-Compiler Design Code- C022611(022)  
Max Marks: 40

Time Allowed: 2 hrs

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2. Each question of PART I carries 2 Marks and 8 marks for PART 2.

Q.N.	Questions	Marks	Levels of Bloom's taxonomy	COs
PART I				
1.	Define is Compiler.	[2]	Remembering	CO1
2.	Describe left recursion and right recursion.	[2]	Understanding	CO2
3.	Define context free grammar.	[2]	Remembering	CO2
4.	Consider the following program: Main() { int x,y,z; z = x + y; }	[2]	Applying	CO1
	List down the Lexeme, Tokens and attribute of tokens.			

PART II

1.	Design minimum state DFA for regular expression $(0 + 1)^*00 + 01$ .	[8]	Creating	CO1
2.	Explain the different phases of compiler with example.	[8]	Understanding	CO1
3.	Illustrate Lex with Suitable code.	[8]	Understanding	CO1
4.	Construct the predictive parsing table for the given grammar: $S \rightarrow AaAb \mid BbBa, A \rightarrow \epsilon, B \rightarrow \epsilon$	[8]	Applying	CO2
5.	Construct predictive parsing table for the following grammar where S is the start symbol: $S \rightarrow iEtSS \mid a, S1 \rightarrow eS \mid \epsilon, E \rightarrow b$	[8]	Applying	CO2



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Note: - All questions are Compulsory.

Q.N.	Questions	Marks	Levels of Bloom's taxonomy	COs
<b>PART I</b>				
Evaluate				
1.	(a) $6^{10} \pmod{11}$ (b) $3^{12} \pmod{11}$ Using Fermat's Theorem.	[2]	Applying	CO3
2.	$X$ congruent $2 \pmod{3}$ , $X$ congruent $3 \pmod{5}$ , $X$ congruent $2 \pmod{7}$ . Find the value of $X$ by using Chinese Remainder Theorem.	[2]	Applying	CO3
3.	Explain the steps of Key Management.	[2]	Understanding	CO3
4.	Differentiate between Public key and Private key cryptography..	[2]	Understanding	CO1
<b>PART II</b>				
1.	Analyze briefly the working of 16ROUNDS in DES.	[8]	Understanding	CO1
2.	Given plain text=10,two prime numbers $P=7, Q=17$ , then calculate the Encryption key, Decryption key and Cipher text using RSA algorithm.	[8]	Applying	CO3
3.	Differentiate between Substitution and Transposition technique with the help of suitable examples.(Explain 2 Examples from each).	[8]	Understanding	CO1
4.	Point out and describe why DIFFIE-HELLMAN KEY EXCHANGE is Used? Explain the above by taking suitable example.	[8]	Applying	CO3

Note: - All questions are Compulsory.

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