Shri Shankaracharya Institute of Professional Management & Technology
Department of Computer Science & Engineering
Class Test – I Session- Jan-June, 2023 Month-April
Sem- 6th (A B & C) Subject- Compiler Design Code- C022611(022)

Time Allowed: 2 hrs Max Marks: 40

Note: - All questions are compulsory.

Q. N.	Questions	Marks	Levels of Bloom's taxonomy	COs
Q1	Discuss the various phases of compiler.	[8]	Understand	CO1
Q2	Illustrate compiler writing tools and role of lexical analyzer.	[8]	Apply	CO1
Q3	Construct an NFA for the regular expression $(a\|b)^*$abb also process a string *ababb* in the NFA.	[8]	Apply	CO1
Q4	Consider the grammar E ⟶ TE' E'⟶ +TE'|∈ T ⟶ FT′ T′⟶ *FT′|∈ F ⟶ (E)|id Construct the predictive parsing table for the grammar.	[8]	Evaluate	CO2
Q5	Consider the grammar E' ⟶ E E ⟶ E+T|T T ⟶ T*F|F F ⟶ (E) |id If I={[E ⟶ T.], [E ⟶ E.+T]} then compute GOTO (I, X).	[8]	Evaluate	CO2

Shri Shankaracharya Institute of Professional Management & Technology

Department of Computer Science & Engineering

Class Test – I Session- Jan– June, 2023 Month-April

Sem- CSE 6th[A] Subject- **Software Engineering and Project Management** Code -C022612(022)

Time Allowed: 2 hrs **Max Marks: 40**

Note:- All questions are compulsory.

Q.N.	Questions	Marks	Levels of Bloom' s taxonomy	COs
Q1	**(a)** Define Software and Software Engineering? **(b)** Explain the advantages and disadvantages of LegacySoftware.	[3+5]	Understand	CO1
Q2	Explain briefly Software Development LifeCycle.	[8]	Understand	CO1
Q3	Compare Waterfall Model and Spiral Model with appropriate diagrams.	[8]	Analyze	CO1
Q4	Draw a Context Level DFD for Hospital Management System.	[8]	Apply	CO2
Q5	Prepare a case study on requirements gathering in software ngineering for a Grocery Shop.	[8]	Apply	CO2

Shri Shankaracharya Institute of Professional Management & Technology

Department of Computer Science & Engineering

Class Test – I Session- Jan – June, 2023 Month-April

Sem- CSE 6th(Section B & C)

Subject- Software Engineering & Project Management(SEPM)Code-C022612(022)

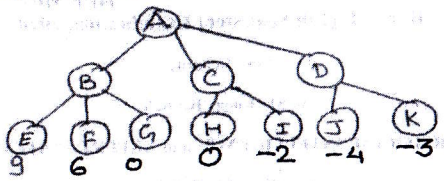
Time Allowed: 2 hrs Max Marks: 40

Note: *- Attempt all questions .All question carry equal marks.*

Q.N.	Questions	Marks	Levels of Bloom's taxonomy	Cos
Q1	Compare waterfall model and incremental model for software development.	[8]	Evaluate	CO1
Q2	Describe Boehm's spiral model of software process with a neat diagram.	[8]	Understand	CO1
Q3	Explain DFD.and Draw the context diagram of "Student Information System" problem.	[8]	Analyze	CO2
Q4	Discuss the crucial process steps of requirement engineering ? Explain with the help of a diagram.	[8]	Understand	CO2
Q5	Consider the problem of library management system and design the following: (i) Problem statement (ii) Use case diagram (iii) Use case	[8]	Apply	CO2

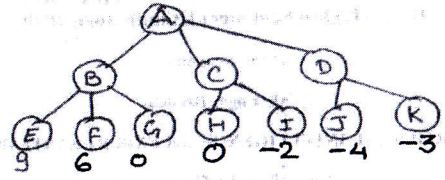
Shri Shankaracharya Institute of Professional Management & Technology
Department of Computer Science & Engineering
Class Test – I Session- Jan – June, 2023 Month- April
Sem- 6th[A] Subject- Artificial Intelligence & Expert System Code- C022613(022)
Time Allowed: 2 hrs Max Marks: 40

Note: - All Questions are compulsory

Q.N.	Questions	Marks	Levels of Bloom's Taxonomy	COs
Q1	Give the list of application areas of artificial intelligence.	[8]	Understand	CO1
Q2	Explain A* algorithim with an example.	[8]	Apply	CO1
Q3	Describe the mini-max search procedure. Apply alpha-beta pruning to the following game tree if maximizer is playing at node A. 	[8]	Apply	CO1
Q4	Explain AO* Algorithm with suitable example.	[8]	Apply	CO1
Q5	What are the charactertistics of knowledge representation system? Explain quantifiers and its types.	[8]	Understand	CO2

Shri Shankaracharya Institute of Professional Management & Technology
Department of Computer Science & Engineering
Class Test – I Session- Jan – June, 2023 Month- April
Sem- 6th[A] Subject- Artificial Intelligence & Expert System Code- C022613(022)
Time Allowed: 2 hrs Max Marks: 40

Note: - All Questions are compulsory

Q.N.	Questions	Marks	Levels of Bloom's Taxonomy	COs
Q1	Give the list of application areas of artificial intelligence.	[8]	Understand	CO1
Q2	Explain A* algorithim with an example.	[8]	Apply	CO1
Q3	Describe the mini-max search procedure. Apply alpha-beta pruning to the following game tree if maximizer is playing at node A. 	[8]	Apply	CO1
Q4	Explain AO* Algorithm with suitable example.	[8]	Apply	CO1
Q5	What are the charactertistics of knowledge representation system? Explain quantifiers and its types.	[8]	Understand	CO2

Shri Shankaracharya Institute of Professional Management & Technology
Department of Computer Science & Engineering
Class Test – I Session- Jan-June, 2023 Month- April
Sem- 6th [B & C] Subject- Artificial Intelligence & Expert System Code- C022613(022)
Time Allowed: 2 hrs Max Marks: 40

Note: - All questions are compulsory and carries equal marks..

Q.N.	Questions	Marks	Levels of Bloom's taxonomy	COs
Q1	Trade the constraint satisfaction procedure for solving SEND + MORE = MONEY	[8]	Apply	CO1
Q2	Explain the A* Algorithm with suitable example.	[8]	Understand	CO1
Q3	Discuss the following with example: a) MiniMax Problem b) B) Alpha-beta pruning	[8]	Apply	CO1
Q4	Describe the following with suitable example: a)Semantic Netwok with isa and hasa example. b) Backward chanining and forward chaining	[8]	Understand	CO2
Q5	Write the facts and rules of knowledge representation for predicate logic and prolog representation using following example: 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.	[8]	Create	CO2

Shri Shankaracharya Institute of Professional Management & Technology
Department of Computer Science & Engineering
Class Test – I Session- Jan-June, 2023 Month- April
Sem- 6th [B & C] Subject- Artificial Intelligence & Expert System Code- C022613(022)
Time Allowed: 2 hrs Max Marks: 40

Note: - All questions are compulsory and carries equal marks..

Q.N.	Questions	Marks	Levels of Bloom's taxonomy	COs
Q1	Trade the constraint satisfaction procedure for solving SEND + MORE = MONEY	[8]	Apply	CO1
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Q3	Discuss the following with example: a) MiniMax Problem b) B) Alpha-beta pruning	[8]	Apply	CO1
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Q5	Write the facts and rules of knowledge representation for predicate logic and prolog representation using following example: 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.	[8]	Create	CO2

Shri Shankaracharya Institute of Professional Management & Technology
Department of Computer Science & Engineering
Class Test – I Session- Jan– June, 2023 Month-April
Sem- CSE 6th [A, B & C] Subject- Internet of Things (Professional Elective-II) Code-C022632(022)
Time Allowed: 2 hrs Max Marks: 40

Note: - All questions are compulsory.

Q.N.	Questions	Marks	Levels of Bloom's taxonomy	COs
Q1	Illustrate the different components of the IoT system in detail.	[8]	Apply	CO1
Q2	Discuss internet of vehicle and Big data in IoT.	[8]	Understand	CO1
Q3	Differentiate MQTT and AMQP Protocols with example.	[8]	Analyze	CO2
Q4	Compare IPV4 and IPV6 Protocols with its header diagram.	[8]	Analyze	CO2
Q5	Explain the bluetooth and Zigbee protocols with proper diagram.	[8]	Understand	CO2

Shri Shankaracharya Institute of Professional Management & Technology
Department of Computer Science & Engineering
Class Test – I Session- Jan– June, 2023 Month-April
Sem- CSE 6th [A, B & C] Subject- Internet of Things (Professional Elective-II) Code-C022632(022)
Time Allowed: 2 hrs Max Marks: 40

Note: - All questions are compulsory.

Q.N.	Questions	Marks	Levels of Bloom's taxonomy	COs
Q1	Illustrate the different components of the IoT system in detail.	[8]	Apply	CO1
Q2	Discuss internet of vehicle and Big data in IoT.	[8]	Understand	CO1
Q3	Differentiate MQTT and AMQP Protocols with example.	[8]	Analyze	CO2
Q4	Compare IPV4 and IPV6 Protocols with its header diagram.	[8]	Analyze	CO2
Q5	Explain the bluetooth and Zigbee protocols with proper diagram.	[8]	Understand	CO2

Shri Shankaracharya Institute of Professional Management & Technology

Department of Computer Science & Engineering

Class Test – I Session- Jan – June, 2023 Month-April

Sem- 6th [A] Subject- Cryptography & Network Security; Code- C000619(022)

Time Allowed: 2 hrs

Max Marks: 40

Note: - All questions are compulsory and carries equal marks..

Q.N.	Questions	Marks	Levels of Bloom's taxonomy	COs
Q.1	List the security attacks.Explain all types of security.	[8]	Understand	CO1
Q.2	Compare cryptography, cryptology and cryptoanalysis.	[8]	Evaluate	CO1
Q.3	Analyze the working of 16 ROUNDS in DES.	[8]	Analyze	CO1
Q.4	Demonstrate the working of Kerberos X.509.	[8]	Analyze	CO5
Q.5	Define network security application.	[8]	Remember	CO5

Shri Shankaracharya Institute of Professional Management & Technology

Department of Computer Science & Engineering

Class Test – I Session- Jan – June, 2023 Month-April

Sem- 6th [A] Subject- Cryptography & Network Security; Code- C000619(022)

Time Allowed: 2 hrs

Max Marks: 40

Note: - All questions are compulsory and carries equal marks..

Q.N.	Questions	Marks	Levels of Bloom's taxonomy	COs
Q.1	List the security attacks.Explain all types of security.	[8]	Understand	CO1
Q.2	Compare cryptography, cryptology and cryptoanalysis.	[8]	Evaluate	CO1
Q.3	Analyze the working of 16 ROUNDS in DES.	[8]	Analyze	CO1
Q.4	Demonstrate the working of Kerberos X.509.	[8]	Analyze	CO5
Q.5	Define network security application.	[8]	Remember	CO5

Shri Shankaracharya Institute of Professional Management & Technology

Department of Computer Science & Engineering

Class Test – I Session - Jan– June, 2023 Month - April.

Sem- 6th [B & C] Subject-Cryptography & Network Security Code-C000619(022)

Time Allowed: 2 hrs Max Marks: 40

Note: - All questions are Compulsory.

Q.N.	Questions	Marks	Levels of Bloom's taxonomy	COs
1.	Differentiate between Substitution and Transposition technique with the help of suitable examples. (Explain2 Examples from each).	[8]	Understand	CO1
2.	Analyze briefly the working of 16ROUNDS in DES.	[8]	Analyze	CO1
3.	X congruent 2(mod 3), X congruent 3(mod 5), X congruent 2 (mod 7). Find the value of X by using Chinese Remainder Theorem. Also solve 3^12 mod 11 Using Fermat's Theorem.	[8]	Apply	CO3
4.	Point out and describe why DIFFIE-HELLMAN KEY EXCHANGE is Used. Explain the above by taking suitable example.	[8]	Apply	CO3
5.	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]	Apply	CO3

Shri Shankaracharya Institute of Professional Management & Technology

Department of Computer Science & Engineering

Class Test – I Session - Jan– June, 2023 Month - April.

Sem- 6th [B & C] Subject-Cryptography & Network Security Code-C000619(022)

Time Allowed: 2 hrs Max Marks: 40

Note: - All questions are Compulsory.

Q.N.	Questions	Marks	Levels of Bloom's taxonomy	COs
1.	Differentiate between Substitution and Transposition technique with the help of suitable examples. (Explain2 Examples from each).	[8]	Understand	CO1
2.	Analyze briefly the working of 16ROUNDS in DES.	[8]	Analyze	CO1
3.	X congruent 2(mod 3), X congruent 3(mod 5), X congruent 2 (mod 7). Find the value of X by using Chinese Remainder Theorem. Also solve 3^12 mod 11 Using Fermat's Theorem.	[8]	Apply	CO3
4.	Point out and describe why DIFFIE-HELLMAN KEY EXCHANGE is Used. Explain the above by taking suitable example.	[8]	Apply	CO3
5.	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]	Apply	CO3