SSIPMT Shri Shankaracharya Institute of Professional Management & Technology Class Test - I Session- Jan - June, 2020 Month-February Department of Computer Science & Engineering

Sem- CSE 6th | Subject- Compiler Design | Code- 322652(22) Time Allowed: 2 hrs | Max Marks: 40

Q.N.	Q.N. Questions Questions	Marks	Levels of Bloom's taxonomy	CO
	Section - I			
r	Design Finite automata to check whether given decimal number is divisible by 3.	[5]	U	COI
2.	Draw the transition diagram to recognize the tokens below: 1) White Space 2) Unsigned Number 3) Relational Operator	[5]	Apply	CO1
	Explain the various phases of compiler with the help of block diagram. Use these phases to translate total = count * c + 20.5 into the target code in assembly language.	[5]	U	CO1
4.	Consider the grammar S-> (L) a; L -> L, S S Construct a LMD and RMD for the following sentences:	[5]	Apply	CO2
	a) $(a,(a,a))$ b) $(a,((a,a),(a,a)))$			

, ∞	7.		ė,	· 5.	
Find FIRST and FOLLOW functions for the following grammar by Removing Left Recursion if exists. 1) E-> E * T T; T-> T ^ F F; F-> (E) id 2) S-> ACB Cbb Ba; A-> da BC; B-> g E; C-> h E	 E>E+T T;T>int (E) L>int int,L (L) 	Use Left factoring and /or elimination of Left Recursion to convert the following grammar into LL grammar?	Describe Ambiguity? Is the following grammar ambiguous? If yes the remove the ambiguity and rewrite the grammar: a) E-> I/E+E/E*E/(E); b) I-> a/b/Ia/Ib/I0/I1	Consider the following grammar and eliminate left recursion- $A \rightarrow Ba/Aa/c$ $B \rightarrow Bb/Ab/d$	Section - II
[6]	4		4	[6]	
Apply	Apply		Apply	Apply	
C02	CO2		C02	C02	

2) S-> ACB | Cbb | Ba; A-> da | BC; B-> g | \varepsilon; C-> h | \varepsilon.

Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering



Class Test - I Session- Jan - June, 2020 Month-February

œ	7.		6.	5.		4.	ÿ	2.	1.		Q.N.	Note:
Find FIRST and FOLLOW functions for the following grammar by Removing Left Recursion if exists. 1) E-> E * T T; T-> T ^ F F; F-> (E) id	 3) E-> E+T T;T-> int (E) 4) L-> int int, L (L) 	Use Left factoring and /or elimination of Left Recursion to convert the following grammar into LL grammar?	Describe Ambiguity? Is the following grammar ambiguous? If yes the remove the ambiguity and rewrite the grammar: c) E-> I/E+E/E*E/(E); d) I-> a/b/Ia/Ib/I0/I1	Consider the following grammar and eliminate left recursion- $A \rightarrow Ba/Aa/c$ $B \rightarrow Bb/Ab/d$	Section - II	Construct a LMD and RMD for the following sentences: a) (a,(a, a)) b) (a, ((a, a), (a, a)))	Explain the various phases of compiler with the help of block diagram. Use these phases to translate total = count * c + 20.5 into the target code in assembly language.	Draw the transition diagram to recognize the tokens below: 1) White Space 2) Unsigned Number 3) Relational Operator	Design Finite automata to check whether given decimal number is divisible by 3.	Section - I	Questions	Note: - All Questions are compulsory.
[6]	Ξ		4	[6]		[5]	[5]	[5]	[5]		Marks	
Apply	Apply		Apply	Apply		Apply	U	Apply	U		Levels of Bloom's taxonomy	
CO2	CO2		C02	CO2		CO2	CO1	001	CO1		COs	

Sem-CSE 6th [A/B] Subject-Management Information System Code - 322675(22) Class Test - I Session- Jan - June, 2020 Month-February

Time Allowed: 2 hrs

Max Marks: 40

D.	Ç	B.	A		D.	C.	В.	A		Q.N.
Explain the life cycle of CBIS. Also explain the importance of information specialists.	Case 1: Why has Amazon.com succeeded online when so many other companies have failed? Case 2: Will the kindle revolutionize the book industry?	Explain the model of CBIS in detail.	Write short notes on: a) Super & Sub systems b) Physical & Conceptual systems	PART II	Define MIS and problem solving Technique.	Explain Report writing software and types.	What are different managerial levels in any organization.	What are the human factors involved in MIS?	PARTI	Q.N. Questions
3	77	[3]	[3]		[7]	[7]	[3]	[3]		Marks
Understanding	Analyze	Remembering	Understanding		Understanding	Applying	Remembering	Understanding		Levels of Bloom's taxonomy
CO2	C02	C02	C02		CO1	C01	COI	CO1		COs



Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering

Class Test - I Session- Jan - June, 2020 Month-February

Sem-CSE 6th [A/B] Subject-Management Information System Code - 322675(22)

ote: - A	Note: - All Question are compulsory.			
Q.N.	Questions	Marks	Levels of Bloom's taxonomy	COs
	PARTI			
A.	What are the human factors involved in MIS?	[3]	Understanding	CO1
В.	What are different managerial levels in any organization.	[3]	Remembering	CO1
C.	Explain Report writing software and types.	[7]	Applying	CO1
D.	Define MIS and problem solving Technique.	[7]	Understanding	CO1
	PART II			
	Write short notes on: a) Super & Sub systems			1
	b) Physical & Conceptual systems	3	O	
B.	Explain the model of CBIS in detail.	[3]	Remembering	C02
	case study			
	Case 1: Why has Amazon.com succeeded online when			
C	so many other companies have failed?	[7]	Analyze	C02
	Case 2: Will the kindle revolutionize the book industry?			
D.	Explain the life cycle of CBIS. Also explain the	3	Understanding)



Class Test - I Session- Jan - June, 2020 Month-February

Sem-CSE 6th [A & B] Subject-Enterprise Resource Planning Code- 322653(22)

Time Allowed: 2 hrs

Max Marks: 40

ze na	ulong wi Analyze A.Huma B.Sales a Analyze	along with It's type and definition. Analyze briefly about: A.Human Resource module B.Sales and distribution module Analyze briefly about the Finance module & manufacturing module of an organization. Using the cocept of PLM explain how it
Analyze briefly about : A.Human Resource module B.Sales and distribution module	Analyze briefly about: A.Human Resource module B.Sales and distribution module Analyze briefly about the Finance module & manufacturing module of an organization.	Analyze briefly about: A.Human Resource module B.Sales and distribution module Analyze briefly about the Finance module & manufacturing module of an organization. Using the cocept of PLM explain how it is
listribution module	listribution module ly about the Finance module & g module of an organization.	listribution module ly about the Finance module & g module of an organization. ocept of PLM explain how it
	riefly about the Finance module & ring module of an organization.	refly about the Finance module & ring module of an organization. cocept of PLM explain how it



Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering

Class Test - I Session- Jan - June, 2020 Month-February

Sem-CSE 6th [A & B] Subject-Enterprise Resource Planning Code- 322653(22)

Time Allowed: 2 hrs

Max Marks: 40

5. 4. A		3. F	2. I		Q.N.
Using the cocept of PLM explain how it is efficient to eliminate waste and improve efficiency.	Analyze briefly about the Finance module & manufacturing module of an organization.	Analyze briefly about: A.Human Resource module B.Sales and distribution module	Point out and describe different Phases of BPR along with It's type and definition.	Differentiate between: (a)MRP I & MRP II. (b)Data mart & Data warehouse.	Q.N. Questions Marks Levels of B
[8]	[8]	4	[8]	[6] [2]	Marks
Applying	Understanding	Understanding	Understanding	Understanding	Levels of Bloom's taxonomy
CO1	CO3	CO3	COI	60	COs

Class Test - I Session- Jan - June, 2020 Month-February

Sem-CSE 6th [A & B] Subject-Computer Networks Code-322651(22)

Time Allowed: 2 hrs Note: - In Unit I & II, Question A is compulsory and attempt any two from B, C & D. Q.N. Questions Marks	Unit I	What are the propagation time and the transmission time for a 2.5-kbyte message if the bandwidth of the A(i). network is 1 Gbps? Assume that the distance between the sender and the receiver is 12,000 km and that light travels at 2.4 ×108 m/s.?	What are the propagation time and the transmission time for a 2.5-kbyte message if the bandwidth of the A(ii). network is 1 Gbps? Assume that the distance between the sender and the receiver is 12,000 km and that light travels at 2.4 ×108 m/s.	A channel has bandwidth of 5kHz and signal to power ratio is 62. Detemine the bandwidth needed if B. the S/N ratio is reduced to 31, What will be signal power required if the channel bandwidth is reduced to 3Hz	C. Write differences between OSI & TCP/IP model.	 (i) A telephone normally has a bandwidth of 3000 Hz (300 to 3300 Hz) assigned for data communications. The signal-to-noise is usually 4095. What is the theoritical highest bit rate of the regular telephone D. line? (ii) Determine the possible Bit-rate and the number of Levels over a channel for these cases? (a) BW = 2.4 kHz, noiseless channel with L=16 (b) BW = 2.4 kHz, SNR = 20 dB (c) BW = 3.0 kHz, SNR = 40 dB 	Unit II	 (i) A bit string, 0111101111101111110, needs to be transmitted at the data link layer. What is the string A. actually transmitted after bit stuffing? (ii) What is the remainder obtained by dividing x7 + x5 + 1 by the generator polynomial x3 + 1? 		B. string transmitted. Suppose the third bit from the left is inverted during transmission. Show that this error is detected at the receiver's end.	
pulsory and attempt any two from B, stions	Unit I	time and the transmission age if the bandwidth of the assume that the distance the receiver is 12,000 km t ×108 m/s.?	time and the transmission age if the bandwidth of the assume that the distance the receiver is 12,000 km t ×108 m/s.	th of 5kHz and signal to ne the bandwidth needed if to 31, What will be signal nnel bandwidth is reduced		OSI & TCP/IP model.			nodel. f 3000 Hz nications. nat is the telephone e number (a) BW = 2.4 = 40 dB II Eeds to be the string ding x7 +		
8, C&D. Marks		[2]	[2]	[8]		[8]	[8]	[8]	[8]	[8]	[8]
Max Marks: 40 Levels of Bloom's COs		Applying	Applying	Applying		Understanding	Understanding Applying	Understanding Applying	Understanding Applying Applying	Understanding Applying Applying Applying	Understanding Applying Applying Applying Understanding
ırks: 40 COs		CO1	CO1	COI		CO1	CO1 CO1	CO1 CO1	CO2 CO1	CO2 CO2 CO1	CO1 CO2 CO1 CO1

Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering

Class Test – I Session- Jan – June, 2020 Month-February Sem- CSE 6th [A & B] Subject- Computer Networks Code- 322651(22)

[8] Understanding [4+4] Applying [2+2] Applying [8] Applying [8] Understanding	(300 to 3300 Hz) assigned for data communications. The signal-to-noise is usually 4095. What is the theoritical highest bit rate of the regular telephone line? (ii) Determine the possible Bit-rate and the number of Levels over a channel for these cases? (a) BW = 2.4 kHz, noiseless channel with L=16 (b) BW = 2.4 kHz, SNR = 20 dB (c) BW = 3.0 kHz, SNR = 40 dB transmitted at the data link layer. What is the string actually transmitted after bit stuffing? (ii) What is the remainder obtained by dividing x7 + x5 + 1 by the generator polynomial x3 + 1? A bit stream 10011101 is transmitted using the standard CRC method described in the text. The generator polynomial is x3 + 1. Show the actual bit string transmitted. Suppose the third bit from the left is inverted during transmission. Show that this error is detected at the receiver's end. Explain different network topologies, which one best topology and why?
[8] Understanding [4+4] Applying [2+2] Applying [8] Applying	(300 to 3300 Hz) assigned for data commus The signal-to-noise is usually 4095. Whe theoritical highest bit rate of the regular to line? (ii) Determine the possible Bit-rate and the of Levels over a channel for these cases? (2.4 kHz, noiseless channel with L=16 (b) E kHz, SNR = 20 dB (c) BW = 3.0 kHz, SNR transmitted at the data link layer. What is the actually transmitted after bit stuffing? (ii) A bit string, 01111011111011111101, ne transmitted at the data link layer. What is the actually transmitted after bit stuffing? (ii) What is the remainder obtained by divice x5+1 by the generator polynomial x3+1? A bit stream 10011101 is transmitted ustandard CRC method described in the the generator polynomial is x3+1. Show the is string transmitted. Suppose the third bit from is inverted during transmission. Show that is detected at the receiver's end.
[4+4]	(300 to 3300 Hz) assigned for data commus The signal-to-noise is usually 4095. Whe theoritical highest bit rate of the regular to line? (ii) Determine the possible Bit-rate and the of Levels over a channel for these cases? (2.4 kHz, noiseless channel with L=16 (b) E kHz, SNR = 20 dB (c) BW = 3.0 kHz, SNR Unit I (i) A bit string, 0111101111111111111, ne transmitted at the data link layer. What is the actually transmitted after bit stuffing? (ii) What is the remainder obtained by dividing the string of the stuffing?
[8] Understanding	(300 to 3300 Hz) assigned for data communication. The signal-to-noise is usually 4095. When theoritical highest bit rate of the regular theoritical highest bit rate of the regular theoritical highest bit rate and the line? (ii) Determine the possible Bit-rate and the of Levels over a channel for these cases? (2.4 kHz, noiseless channel with L=16 (b) EkHz, SNR = 20 dB (c) BW = 3.0 kHz, SNR
[8] Understanding	(300 to 3300 Hz) assigned for data communities the signal-to-noise is usually 4095. Whetheoritical highest bit rate of the regular thing?
[8] Understanding	(i) A telephone normally has a handwidth of 3000 Hz
	Write differences between OSI & TCP/IP model.
signal to needed if be signal [8] Applying CO1 s reduced	A channel has bandwidth of 5kHz and signal to power ratio is 62. Determine the bandwidth needed if the S/N ratio is reduced to 31, What will be signal power required if the channel bandwidth is reduced to 3Hz
nsmission dth of the distance [2] Applying CO1 2,000 km	What are the propagation time and the transmission time for a 2.5-kbyte message if the bandwidth of the network is 1 Gbps? Assume that the distance between the sender and the receiver is 12,000 km and that light travels at 2.4 ×108 m/s.
nsmission dth of the distance [2] Applying CO1 2,000 km	What are the propagation time and the transmission time for a 2.5-kbyte message if the bandwidth of the network is 1 Gbps? Assume that the distance between the sender and the receiver is 12,000 km and that light travels at 2.4 ×108 m/s.?
	Unit I
Marks Bloom's COs Taxonomy	Questions

Sem-CSE 6th [A & B] Subject-Computer Graphics Code- 322655(22) Class Test - I Session- Jan - June' 2020 Month-February

Time Allowed: 2 hrs

Max Marks: 40

Q.N. Note: - In Section I & II, Question A is compulsory and attempt any two from B, C & D. D. 0 B A drawing algorithm. Scan convert the straight line using Bresenhems line The endpoints of a given line are (20,10) and(30,18). Describe various applications of computer graphics. Differentiate between Raster scan system and Random scan system? algorithm. Differentiate DDA and Bresenham's line drawing Questions Section II Section I Marks [8] [8] [4] 8 Understand Taxonomy Understand Levels of Bloom's Apply Analyze CO2 CO1 CO1 C02 COs

D.

using algorithm.

convert a circle having radius 10 and centered at origin Write midpoint circle drawing algorithm and scan C(5,2) (a) about the origin and (b) about (-1,-1).

8

Apply

C02

C

Perform a 45degrees rotation of triangle A(0,0), B(1,1), C(5,2) to twice its size while keeping C(5,2) fixed.

8

Apply

C02

B

A

Scan Line filling algorithm.

What are the types of filled area primitives? Explain

Magnify the triangle with vertices A(0,0), B(1,1), and

[8] 4

Apply

CO3

Understand

C02

1	SSIPMT	-
	123×	0

Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering

Class Test - I Session- Jan - June' 2020 Month-February

Sem-CSE 6th [A & B] Subject-Computer Graphics Code- 322655(22)

Max Marks: 40

Time Allowed: 2 hrs

Q.N.	Q.N. Questions Marks I	Marks	Levels of Bloom's Taxonomy
	Section I		
A.	Differentiate DDA and Bresenham's line drawing algorithm.	[4]	Analyze
B.	Differentiate between Raster scan system and Random scan system?	[8]	Understand
C.	Describe various applications of computer graphics.	[8]	Understand
D.	The endpoints of a given line are (20,10) and(30,18). Scan convert the straight line using Bresenhems line drawing algorithm.	8	Apply
	Section II		
P	What are the types of filled area primitives? Explain Scan Line filling algorithm.	4	Understand
B.	Magnify the triangle with vertices A(0,0), B(1,1), and C(5,2) to twice its size while keeping C(5,2) fixed.	[8]	Apply
Ċ	Perform a 45degrees rotation of triangle A(0,0), B(1,1), C(5,2) (a) about the origin and (b) about (-1,-1).	[8]	Apply
Ď.	Write midpoint circle drawing algorithm and scan convert a circle having radius 10 and centered at origin using algorithm.	8	Apply



Class Test - I Session- Jan - June, 2020 Month- February

Sem- CSE 6th [A & B] Subject- Software Engineering & Project Management Code- 322654(22)
Time Allowed: 2 hrs

Max Marks: 40

Note: - Attempt any two from option (b),(c)& (d) questions and ,option(a) is mandatory from section I & II and attempt any two questions from section-III.

©.	(b) .	3(a).		(d).	(c).	(b).	2(a).		(d).	(c).	(b).	1(a).		Q.N.
What are components of a use case diagram? Explain their usage with the help of an example.	Explain Increment model in brief.	What is unified process? Explain various phases along with the outcome of each phase.	Section-III	What is software requirements specification (SRS)? List out the advantages of SRS standards.	What are crucial process steps of requirement engineering? Discuss with the help of a diagram.	Discuss the significance and use of requirement engineering. Explain Functional & Non functional requirement in brief.	What is the purpose of feasibility study?	Section-II	Sketch a neat diagram of spiral model of software life cycle.	Explain a layered technology for a process framework in details	Explain the problems that might be faced by an organization if it does not follow any software life cycle model.	Justify the sense "Software is developed or engineered, it is not manufactured in the classical sense"	Section-I	Questions
[4]	4	4		[7]	3	[7]	[2]		3	7	[7]	[2]		Marks
Understanding, Apply	Remember	Understanding		Apply	Understanding	Understanding	Understanding		Understanding	Understanding	Understanding	Understanding		Levels of Bloom's taxonomy
C02	C02	CO1		C02	C02	C02	C02		C02	COI	CO1	CO1		COs



Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering

Class Test - I Session- Jan - June, 2020 Month- February

Sem- CSE 6th [A & B] Subject- Software Engineering & Project Management Code- 322654(22)
Time Allowed: 2 hrs Max Marks: 40

Note: - Attempt any two from option (b), (c) & (d) questions and , option(a) is mandatory from section I & II and attempt any two questions from section-III.

(c).	(b).	3(a).		(d).	(c).	(b).	2(a).		(d).	(c).	(b).	1(a).		Q.N.
What are components of a use case diagram? Explain their usage with the help of an example.	Explain Increment model in brief.	What is unified process? Explain various phases along with the outcome of each phase.	Section-III	What is software requirements specification (SRS)? List out the advantages of SRS standards.	What are crucial process steps of requirement engineering? Discuss with the help of a diagram.	Discuss the significance and use of requirement engineering. Explain Functional & Non functional requirement in brief.	What is the purpose of feasibility study?	Section-II	Sketch a neat diagram of spiral model of software life cycle.	Explain a layered technology for a process framework in details	Explain the problems that might be faced by an organization if it does not follow any software life cycle model.	Justify the sense "Software is developed or engineered, it is not manufactured in the classical sense"	Section-I	Questions
王	4	[4]		[7]	[7]	[7]	[2]		[7]	3	[7]	[2]		Marks
Understanding, Apply	Remember	Understanding		Apply	Understanding	Understanding	Understanding		Understanding	Understanding	Understanding	Understanding		Levels of Bloom's taxonomy
CO2	C02	COI		C02	C02	C02	C02		C02	C01	C01	COI		COs