AR20/AR18

Course Code: 20CS31002/18CS3102

Geethanjali College of Engineering and Technology (Autonomous), Hyderabad

III B.Tech (CSE/IT/CS/AIML/IoT) I Semester (Regular/Supplementary) Examinations, December 2022

Computer Networks

Assume any missing data suitably.

Time: 3 hours | **Answer All Questions** | **Max. Marks: 70**

PART-A | **10 X 2M = 20**

			CO	BTL
1	a.	Differentiate physical and logical topology	1	2
	b.	Explain the advantages and disadvantages of layered protocol.	1	3
	c.	Compare and contrast flow control and error control.	2	2
	d.	Differentiate pure and slotted aloha.	2	2
	e.	Differentiate logical and physical addressing	3	2
	f.	Explain DHCP	3	2
	g.	Explain client/server paradigm	4	2
	h.	List the advantages and disadvantages of leaky bucket algorithm	4	1
	i.	Explain DNS	5	2
	j.	Differentiate between static and dynamic content in WWW.	5	2

PART-B | **5 X 10M = 50M**

			M	CO	BTL
2	a	Describe OSI and TCP/IP reference models.	5	1	2
	b	Explain various switching and multiplexing techniques.	5	1	2
		OR			
3	a	Why wired protocols cannot be used in wireless communication with suitable examples.	5	1	3
	b	Discuss about guided and unguided transmission media.	5	1	2
4	a	Explain error detection and correction methods.	5	2	2
	b	Write about the following CSMA schemes: (i) Non-persistent, (ii) 1-persistent.	5	2	3
		OR			
5	a	Explain about the Sliding Window Protocols.	5	2	2
	b	Describe Hamming distance with suitable example.	5	2	3
6	a	Illustrate the IPv4 header and its fields in detail.	5	3	2
	b	Describe unicast Protocols.	5	3	2
		OR			
7	a	Write about CIDR with suitable examples.	5	3	3
	b	What are the drawbacks of classfull addressing?	5	3	2
8	a	Illustrate the header fields of TCP protocol.	5	4	2
	b	Differentiate TCP and UDP protocols.	5	4	2
		OR			

Course Code: 20CS31003 AR20

Geethanjali College of Engineering and Technology (Autonomous), Hyderabad

III B.Tech (CSE/ AIML/DS/IoT/IT) I Semester (Regular) Examinations, December 2022

ARTIFICIAL INTELLIGENCE

Assume any missing data suitably

Time: 3 hours | Answer All Questions | Max. Marks: 70

PART-A | 10 X 2M = 20

			CO	BTL
1	a	Distinguish types of agents?	1	2
	b	What is Heuristic Search?	1	2
	c	Define Constraint Satisfaction	2	1
	d	Define Horn clauses	2	1
	e	Discuss Syntax of First-Order Logic	3	1
	f	Explain Unification in FOL	3	2
	g	Discuss State-Space Search	4	1
	h	Explain Planning Graphs	4	2
	i	Explain Bayes' Rule	5	2
	j	Discuss First-Order Probability	5	1

PART-B 5 X 10M = 50M

			M	CO	BTL
2	a	Compare Depth-first search and Breadth first search with example.	5	1	3
	b	Explain searching with Non-Deterministic Actions.	5	1	2
		OR			
3	a	Explain Iterative deepening Depth-first search with example.	5	1	2
	b	Discuss Bidirectional search with example.	5	1	1
4	a	Write about Alpha–Beta Pruning with example.	5	2	3
	b	Explain types of Agents.	5	2	2
		OR			
5	a	Differentiate Forward and backward chaining.	5	2	4
	b	Discuss about Logical state estimation and hybrid agent	5	2	2
6	a	Explain about Models for first-order logic.	5	3	2
	b	Wrtie about Quantifiers.	5	3	3
		OR			
7	a	Write about Equality and An alternative semantics.	5	3	1
	b	In each of the following we give an English sentence and a number of candidate logical expressions. For each of the logical expressions, state whether it (1) correctly expresses the English sentence; (2) is syntactically invalid and therefore meaningless; or (3) is syntactically valid but does not express the meaning of the English sentence. a. Paris and Marseilles are both in France. (i) In(Paris ∧ Marseilles,France). (ii) In(Paris,France) ∧ In(Marseilles,France). (iii) In(Paris,France) ∨ In(Marseilles,France).	5	3	5
8	a	Using classical planning explain Air cargo transport system.	5	4	2

Course Code: 20CS31007 AR20

Geethanjali College of Engineering and Technology (Autonomous), Hyderabad

III B.Tech (IT) I Semester (Regular) Examinations, December 2022

Cryptography and Network Security

Time: 3 hours | Answer All Questions | Max. Marks: 70

PART-A 10X2M=20

			CO	BTL
1	a.	What is man in the Middle Attack?	1	1
	b.	How substitution techniques work?	1	2
	c.	What is avalanche effect?	2	1
	d.	Compare stream cipher with block cipher.	2	5
	e.	What is meant by one-way property in hash function?	3	1
	f.	Outline the importance of key management.	3	2
	g.	What are the security considerations of a website?	4	1
	h.	How security is provided in wireless LAN?	4	2
	i.	What is the use of MIME protocol?	5	1
	j.	What is Cross Site Scripting?	5	2

PART-B 5 X 10M = 50M

			M	CO	BTL
2	a	Explain the various active attacks? What security mechanisms are suggested to counterattack active attacks.	5	1	5
	b	Explain a model for Network Security.	5	1	5
		OR			
3		What are the different transposition techniques? Explain.	10	1	5
4		Illustrate the operations performed in each round of AES algorithm.	10	2	2
		OR			
5	a	Explain how authentication and confidentiality can be achieved using public key cryptography.	5	2	5
	b	Describe RSA Algorithm and Estimate the encryption and decryption values for the RSA algorithm parameters.	5	2	6
6	a	Describe signing and verification in Digital Signature Algorithm.	5	3	6
	b	Describe HMAC algorithm. Comment on the security of HMAC.	5	3	5
		OR			
7	a	What are the different servers used in Kerberos? Explain the role of each one.	5	3	5
	b	What are the differences between Kerberos 4 and Kerberos 5.	5	3	2
8		Explain about SSL Handshake protocol.	10	4	5
		OR			
9	a	Briefly explain Mobile Device Security.	5	4	2
	b	Discuss about IEEE 802.11i Wireless LAN Security.	5	4	6

Course Code: 20CS31001 AR20

Geethanjali College of Engineering and Technology (Autonomous), Hyderabad

III B.Tech (CSE/IT) I Semester (Regular) Examinations, December 2022

Software Engineering

Assume any missing data suitably

Time: 3 hours **Answer All Questions** **Max. Marks: 70**

PART-A **10 X 2M = 20**

			CO	BTL
1	a.	Define legacy software.	1	1
	b.	Name the Process framework activities.	1	1
	c.	Draw the diagram for Input and output for domain analysis.	2	2
	d.	List any four guidelines for identifying responsibilities.	2	1
	e.	Why Is Architecture Important?	3	2
	f.	What is component level design.	3	1
	g.	What is risk analysis?	4	1
	h.	Write about process metrics.	4	1
	i.	What is smoke testing.	5	1
	j.	Define unit testing	5	1

PART-B **5 X 10M = 50M**

			M	CO	BTL
2	a	With a neat diagram explain layered technology of software engineering process.	6	1	2
	b	What are the characteristics of software engineering?	4	1	2
		OR			
3	a	Elaborate on spiral model in detail.	5	1	2
	b	Explain with a neat diagram Adaptive Software Development (ASD).	5	1	2
4	a	Discuss about Collaborative Requirements Gathering.	5	2	2
	b	Write about the user and system requirements.	5	2	1
		OR			
5	a	Describe the Elements of the Requirements Model.	5	2	1
	b	Draw the Class diagram for FloorPlan. Explain.	5	2	3
6	a	Explain about Deployment-Level Design Elements.	5	3	2
	b	With a neat diagram explain Architectural context diagram for the SafeHome security function.	5	3	4
		OR			
7	a	Explain about the Golden rules.	5	3	2
	b	Write the common Design Issues of user interface.	5	3	2
8	a	Briefly discuss about RMMM plan.	5	4	2
	b	Discuss about the Determinants for software quality and organizational effectiveness.	5	4	2
		OR			