

Total No. of Questions: 3

Enrollment No. EN21CS304009



Faculty of Engineering
Mid Sem-I Examination September-2023
CS3CO40 Software Engineering

Programme: B.Tech

Branch/Specialization: CSE All

Duration: 1.5Hrs.

Maximum Marks: 30

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

	Marks	BL	CO	PO	PSO
Q.1 i. To get a reliable and good software product, we must :	1	BL ₁	CO ₁	PO ₀₁ PO ₀₂	
a) Pay more money for the software development					
b) Involve more manpower and resources					
c) Better understand the software development process					
d) Follow agile methodology of software development					
ii. Which one of the following is not a software –engineering –layered technology:	1	BL ₁	CO ₁	PO ₀₁ PO ₀₂	
a) process					
b) Manufacturing					
c) Methods					
d) Tools					
iii. It is not possible to remove software errors completely prior to product delivery because :	1	BL ₁	CO ₁	PO ₀₁ PO ₀₂	
a) Error are the part and parcel of a software					
b) Error must be removed at the client end during software implementation					
c) Overall software cost will become higher					
d) Some errors become visible in the software when beta version of the software is implemented at the client end.					
iv. Which one of the following is not a step of requirement engineering:	1	BL ₁	CO ₂	PO ₀₁ PO ₀₂	
a) Elicitation					
b) Design					
c) Analysis					
d) Documentation,					

v.	_____ and _____ are the two viewpoints discussed in Controlled Requirements Expression (CORE):	1	BL ₁	CO ₁	PO0 ₁
					PO0 ₂
vi.	a) Functional, Non-Functional	1	BL ₁	CO ₂	PO0 ₁ PO0 ₂
	b) User, Developer				
	c) Known, Unknown				
	d) All of the mentioned				
	Which is true for SRS:				
Q.2 i.	a) SRS is the main input of the software product design process	2	BL ₂	CO1	PO0 ₁ PO0 ₂
	b) SRS is the main output to the engineering design process				
	c) SRS is also the main output of the requirements specification activity				
	d) All of the mentioned				
	What is software Engineering Principle.				
OR	ii. Describe the important characteristics and goal of software engineering.	3	BL ₂	CO1	PO0 ₁ PO0 ₂
	iii. How does a spiral model represent a process suitable to represent a real time problem?	7	BL ₂	CO1	PO0 ₁ PO0 ₂
	iv. Explain Waterfall model with diagram along with advantages and disadvantages.	7	BL ₂	CO1	PO0 ₁ PO0 ₂
	Q.3 i. Explain the types of requirements?	2	BL ₂	CO2	PO0 ₁ PO0 ₂
	ii. What is SRS? Also explain feature of good quality SRS.	2	BL ₂	CO2	PO0 ₁ PO0 ₂
OR	iii. What is the use of requirement engineering? What are the problems in formulation of Requirements?	8	BL ₂	CO2	PO0 ₁ PO0 ₂
	iv. Draw the Use Case for Library Management System.	8	BL ₂	CO2	PO0 ₁ PO0 ₂

Total No. of Questions: 3

Enrollment No. EN21C5304009



Faculty of Engineering
Mid Sem-I Examination September-2023
CS3CO41 Computer Network

Programme: B.Tech

Branch/Specialization: CSE

Duration: 1.5Hrs.

Maximum Marks: 30

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

		Marks	BL	CO	PO	PSO
Q.1	i. The maximum throughput for pure aloha is..... (a) 18.8 (b) 18.4 (c) 36.4 (d) 36.8	1	BL1	CO1	PO2	
	ii. In slotted aloha, vulnerable time is the frame transmission time. (a) Same as (b) 1 time (c) 2 time (d) 3 time	1	BL1	CO1	PO2	
	iii. In Carrier Sense Multiple Access (CSMA), if the station senses the medium before trying to use it then the chance of collision can be (a) Increased (b) Highlighted (c) Reduced (d) both b and c	1	BL2	CO1	PO1	
	iv. Which address prefix range is reserved for IPv4 multicast? (a) 240.0.0.0 – 254.255.255.255 (b) 224.0.0.0 – 239.255.255.255 (c) 169.254.0.0 – 169.254.255.255 (d) 127.0.0.0 – 127.255.255.255	1	BL2	CO2	PO3	
	v. ICMP is the Companion protocol of which protocol (a) TCP (b) BGP (c) IP (d) ARP	1	BL2	CO2	PO2	
	vi. An ARP request is normally (a) broadcast (b) multicast (c) unicast (d) none of the above	1	BL2	CO2	PO2	

Q.2	i.	What is MAC address?	2	BL2	CO1	PO1
	ii.	Explain the channel allocation technique and its types.	3	BL1,2	CO1	PO2
	iii.	Draw and explain the Ethernet frame format in detail.	7	BL1,2	CO1	PO2
OR	iv.	Explain the CSMA/CD protocol with its working and flowchart.	7	BL4	CO1	PO3
Q.3	i.	Explain Fragmentation and reassembly.	2	BL2	CO2	PO2
	ii.	What is DHCP?	2	BL1	CO2	PO3
	iii.	Given IP address is 200.1.2.0 we want to divide it into 2 subnet Find the: IP address of both subnets, total no of IP address, no of host, range of IP address, DBA, LBA	8	BL5	CO2	PO3
OR	iv.	What is IP protocol? draw and explain the following fields 1. Fragment Offset 2. TTL 3. Total length 4. HLEN	8	BL2	CO2	PO3

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Enrollment No. FN2ICS 304009

Faculty of Engineering

Mid Sem-I Examination September-2023

CS3CO42 Design and Analysis of Algorithm

Programme: B.Tech

Duration: 1.5 Hrs.

Branch/Specialization: CSE

Maximum Marks: 30

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

	Marks	BL	CO	PO	PSO
Q.1 i. Time Complexity of Insertion sort is	1	BL ₀₁	C ₀₁	PO ₀₁	PSO ₀₁
(a) linear				02, 03, 04	02, 03, 04
(b) Quadratic					
(c) Cubic					
(d) Exponential					
ii. This algorithm scans the list by swapping the entries whenever pair of adjacent keys are out of desired order.	1	BL ₀₁	C ₀₁	PO ₀₁	PSO ₀₁
(a) Insertion sort.				02, 03, 04	02, 03, 04
(b) Bubble sort.					
(c) Shell sort.					
(d) Quick sort.					
iii. The O-Notation provides an asymptotic	1	BL ₀₁	C ₀₁	PO ₀₁	PSO ₀₁
(a) Upper Bound				02, 03, 04	02, 03, 04
(b) Lower Bound					
(c) Light Bound					
(d) None of These					
iv. On which algorithm is heap sort based on?	1	BL ₀₁	C ₀₂	PO ₀₁	PSO ₀₁
(a) Fibonacci heap				02, 03, 04	02, 03, 04
(b) Binary tree					
(c) Priority queue					
(d) FIFO					
v. Average case time complexity of Quick sort is _____	1	BL ₀₁	C ₀₂	PO ₀₁	PSO ₀₁
(a) $\Theta(n \log n)$				02, 03, 04	02, 03, 04
(b) $O(\log n)$					
(c) $O(n \log n)$					
(d) $\Theta(\log n)$					

vi.	The time complexity of binary search in best, worst cases for an array of size N is (a) N, N ² (b) 1, Log N (c) Log N, N ² (d) 1, N log N	1	BL01	C02	PO01, 02, 03, 04	PSO01, 02, 03, 04
Q.2 i.	Describe the time complexity.	2	BL01	C01	PO01, 02, 03, 04	PSO01, 02, 03, 04
ii.	If $f(n) = 5n^2 + 3n + 2$ then prove that $f(n)$ is $O(n^2)$	3	BL02	C01	PO01, 02, 03, 04	PSO01, 02, 03, 04
iii.	What is performance Analysis? How we do performance Analysis?	7	BL01	C01	PO01, 02, 03, 04	PSO01, 02, 03, 04
OR iv.	Solve the following recurrence relations by using Master's theorem i) $T(n) = 4T(n/2) + n$ ii) $T(n) = 2T(n/2) + n \log n$	7	BL02	C01	PO01, 02, 03, 04	PSO01, 02, 03, 04
Q.3 i.	How merge sort is related to Divide and Conquer? Explain.	2	BL01	C02	PO01, 02, 03, 04	PSO01, 02, 03, 04
ii.	Define Greedy method.	2	BL01	C02	PO01, 02, 03, 04	PSO01, 02, 03, 04
iii.	Define recurrence equation for merge sort using substitute method	8	BL02	C02	PO01, 02, 03, 04	PSO01, 02, 03, 04
OR iv.	Show the various steps involved in the quick sorting of (23, 67, 12, 78, 33, 28, 97, 10, 6, 87, 39)	8	BL02	C02	PO01, 02, 03, 04	PSO01, 02, 03, 04

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Enrollment No. EN21CS304009

Faculty of Engineering

Mid Sem -I Examination September -2023

EN3HS04 Fundamentals of Management, Economics & Accountancy

Programme: B. Tech

Branch/Specialization: CSE All

Duration: 1.5 Hrs.

Maximum Marks: 30

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- | | Marks | BL | CO | PO | PSO |
|-----------------------------------------------------------------|-------|-----|-----|-----|-----|
| Q.1 i. _____ is known as "the father of scientific management." | 1 | BL1 | CO1 | PO1 | |
| (a) Fredrick W. Taylor | | | | | |
| (b) Henry Fayol | | | | | |
| (c) Robert Owen | | | | | |
| (d) None of these | | | | | |
| ii. Management is _____ in order to create a surplus. | 1 | BL1 | CO1 | PO1 | |
| (a) An art | | | | | |
| (b) A science | | | | | |
| (c) Both A & B | | | | | |
| (d) None of these | | | | | |
| iii. The three essential managerial skills includes _____. | 1 | BL1 | CO1 | PO1 | |
| (a) Technical, Human, Organizational | | | | | |
| (b) Human, Leadership, Conceptual | | | | | |
| (c) Technical, Interpersonal, Motivating | | | | | |
| (d) Technical, Human, Conceptual | | | | | |
| iv. In the marketing process, the first step is to- | 1 | BL1 | CO2 | PO2 | |
| (a) Develop a research plan | | | | | |
| (b) Define research objectives | | | | | |
| (c) Both A & B | | | | | |
| (d) Implement a research plan | | | | | |

v.	Management skills applies to managers at _____.	1	BL1	CO2	PO2
	(a) Middle levels in an organization				
	(b) Top levels in an organization				
	(c) Executive levels in an organization				
	(d) All levels in an organization				
vi.	The term marketing refers to _____.	1	BL1	CO2	PO2
	(a) Advertising, Sales Promotion, Publicity and Public Relational activities				
	(b) A new product needs ideas, Developments, concepts and improvements.				
	(c) Sales Planning, Strategy and Implementation				
	(d) A philosophy that stresses customer value and satisfaction				
Q.2	i. Write difference between management and administration (any two)	2	BL2	CO1	PO 2, PO 3
	ii. What does POSDCORB stand for?	3	BL2	CO1	PO 2, PO 3
	iii. How to deal with decision making under condition of uncertainty?	7	BL2	CO1	PO 2, PO 3
OR	iv. What are the three managerial roles suggested by Mintzberg?	7	BL2	CO1	PO3
Q.3	i. Define the term Marketing Mix?	2	BL2	CO2	PO3
	ii. How does COCA COLA use holistic marketing concept.	4	BL3	CO2	PO3
	iii. What are the functions of Marketing?	6	BL2	CO2	PO3
OR	iv. What are the three biggest challenges to customer relationship management?	6	BL2	CO2	PO3

Total No. of Questions: 3

Enrollment No. EN21CS304009



Faculty of Engineering
Mid Sem I Examination September - 2023
CS3EA10 Artificial Intelligence

Programme: B.Tech.

Branch/Specialisation: All

Duration: 1.5 Hrs.

Maximum Marks: 30

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

		Marks	BL	CO	PO	PSO
Q.1	i. Who is the inventor of Artificial Intelligence?	1	BL1	CO1	PO1	
	a) Geoffrey Hinton b) Andrew Ng					
	c) John McCarthy d) Jürgen Schmidhuber					
	ii. What is the goal of Artificial Intelligence?	1	BL1	CO1	PO1	
	a) To solve artificial problems					
	b) To extract scientific causes					
	c) To explain various sorts of intelligence					
	d) To solve real-world problems					
	iii. Which of the following is the branch of Artificial Intelligence?	1	BL1	CO1	PO1	
	a) Machine Learning					
	b) Cyber forensics					
	c) Full-Stack Developer					
	d) Network Design					
	iv. Which of the Following problems can be modeled as CSP?	1	BL1	CO2	PO1	
	a) 8-Puzzle problem					
	b) 8-Queen problem					
	c) Map coloring problem					
	d) All of the mentioned					

v.	Which of the following algorithm is generally used CSP search algorithm?	1	BL1	CO2	PO1
	a) Breadth-first search algorithm				
	b) Depth-first search algorithm				
	c) Hill-climbing search algorithm				
	d) None of the mentioned				
vi.	Which of the following is not an application of artificial intelligence?	1	BL1	CO2	PO1
	a) Face recognition system				
	b) Chatbots				
	c) LIDAR				
	d) DBMS				
Q.2 i.	Explain Artificial Intelligence.?	2	BL2	CO1	PO1
ii.	Explain BFS algorithm with an example?	3	BL3	CO1	PO1
iii.	Write difference between BFS & DFS?	7	BL2	CO1	PO1
OR iv.	What is the Production System? Explain Production System characteristics.?	7	BL2	CO1	PO1
Q.3 i.	What is heuristic search explain with an example?	2	BL2	CO2	PO2
ii.	Explain Best first Search?	2	BL3	CO2	PO2
iii.	Explain A* and Hill Climbing algorithm with example?	8	BL3	CO2	PO3
OR iv.	What is meant by CSP (Constraint Satisfaction problem)? explain briefly by taking an example.	8	BL3	CO2	PO2
