QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

MID-SEMESTER EXAMINATION OF SECOND SEMESTER – THIRD YEAR (6TH SEMESTER) 2023, 20-BATCH, B.E (CS)

SUBJECT: ARTIFICIAL INTELLIGENCE

Dated: 03.10.2023 Maximum Marks: 20 Time Allowed: 01 Hour.

NOTE: ATTEMPT ANY TWO (02) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No.		Question	CLO	Taxonomy Level	PLO	Marks
01	(a)	What do you understand by Artificial Intelligence? Also Provide some real-world applications of AI.	1	C1, C2	1	04
	(b)	Give a brief introduction to the Turing test in AI.	1	C1, C2	1	04
	(c)	Define rational agent.	1	C1, C2	1	02
02		Describe all the agent types you studied in the class using diagrams or pseudocode.	1	C1, C2	1	10
03	(a)	What is the use of searching techniques in AI systems?	1	C1, C2	1	03
	(b)	What are the different problem solving steps in AI systems?	1	C1, C2	1	03
	(c)	How do you measure agent's problem-solving performance?	1	C1, C2	1	04

The End

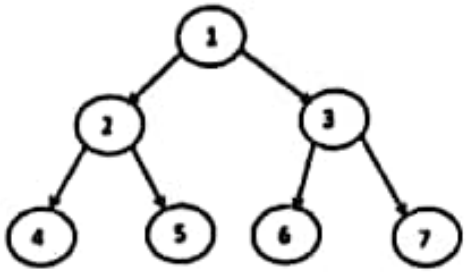
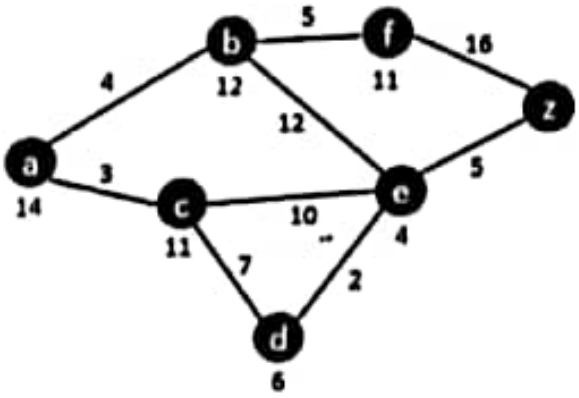
QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

FINAL SEMESTER REGULAR EXAMINATION OF SECOND SEMESTER – THIRD YEAR, 2023 OF 20-BATCH, B.E (CS)

SUBJECT: ARTIFICIAL INTELLIGENCE

Dated: 21.11.2023 Maximum Marks: 60 Time Allowed: 3 Hours.

NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No.		QUESTION	CLO	Taxi Level	PLO	Marks
Q. 01	(a)	Describe uniform cost search using an example.	1	C2	1	08
	(b)	Describe depth first search algorithm.	1	C2	1	04
Q. 02	(a)	Differentiate between Informed and Uninformed search.	2	C5	4	05
	(b)	Determine the best path using Best First Search algorithm and a queue for the given graph. 	2	C5	4	07
Q. 03	(a)	Describe bi-directional search.	1	C2	1	04
	(b)	Perform A-Star search from A to Z using the following graph. 	1	C5	4	08
Q. 04	(a)	Describe supervised learning method using an example.	1	C2	1	08
	(b)	Name some real-life applications of supervised learning.	1	C2	1	04
Q. 05	(a)	Describe decision trees algorithm using an example.	1	C2	1	08
	(b)	What is the difference between classification and regression problem?	1	C2	1	04

The End

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH.

2nd Semester- 3rd Year (6th Semester) Mid-Semester Examination, 2023 of 20-Batch B.E(CSE)

SUBJECT: EMBEDDED SYSTEM

Dated: 06-10-2023 Maximum Marks: 20 Time Allowed: 01 Hour.

NOTE: ATTEMPT ANY TWO (02) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Question No.		Question	CLO Assessed	Marks
Q. 01	a)	What is embedded system? Explain the types of embedded system with suitable example.	CLO-1	(05)
	b)	What is market window? Explain time-to-market and time-to-prototype with example	CLO-1	(05)
Q. 02	a)	Explain briefly 1. Harvard architecture 2. Programming model 3. NRE cost	CLO-1	(06)
	b)	What is embedded hardware? Explain application of embedded system with example.	CLO-1	(04)
Q. 03	a)	What is instruction? Explain INC and SJMP instructions with example.	CLO-1	(04)
	b)	Explain the characteristics of embedded system with suitable example	CLO-1	(06)

— THE END —

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

FINAL SEMESTER REGULAR EXAMINATION OF SECOND SEMESTER – THIRD YEAR 2023 OF 20-BATCH B.E (CS)

SUBJECT: EMBEDDED SYSEMS

Dated: 01.12.2023 Maximum Marks: 60 Time Allowed: 3 Hours.

NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No.		QUESTION	CLOs	Taxonomy Level	PLOs	Marks
Q. 01	(a)	What is small scale embedded system? Explain the types of standalone embedded system with suitable example.	2	C3	5	06
	(b)	What is low level programming? Briefly explain compiler, assembler and linker with suitable example.	3	C5	7	06
Q. 02	(a)	What is the characteristics of embedded system? Explain objectives, complexity and reliability with suitable example.	2	C3	5	06
	(b)	Write an assembly language program to find the square of number 04.	3	C5	7	06
Q. 03	(a)	What is Thumb processor? Explain data movement instructions with the help of programming example.	2	C3	5	06
	(b)	Write an assembly language program to transfer 5 bytes of data from location 40h to 50h.	3	C5	7	06
Q. 04	(a)	Explain the syntax of following instruction with example. 1. LSR Rd, Rn, immediate 2. <LDRH | STRH> { <cond> } { B } Rd, Addressing	2	C3	5	06
	(b)	Design a processor unit of special purpose processor .	3	C5	7	06
Q. 05	(a)	What is PIC microcontroller? Briefly explain the architecture of PIC microcontroller.	2	C3	5	06

	(b)	Find the output of the following program.
		MOV R5, #25H
		MOV R7, #34H
		MOV A, #0
		ADD A, R5
		ADD A, R7
		ADD A, #13H
		MOV P2,A
		XYZ: SJMP XYZ
			3	C5	7	06

The End

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

MID-SEMESTER EXAMINATION OF SECOND SEMESTER – THIRD YEAR (6TH SEMESTER) 2023, 20-BATCH, B.E (CS)

SUBJECT: MODELING AND SIMULATION

Dated: 05.10.2023 Maximum Marks: 20 Time Allowed: 01 Hour.

NOTE: ATTEMPT ANY TWO (02) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No.		Question	CLO	Taxonomy Level	PLO	Marks
01		What are the main steps involved for developing a simulation model? Describe the difference between verification and validation of simulation models. With the help of examples, define and explain any THREE of the following simulation models. i) Stochastic models ii) Dynamic models iii) Discrete models iv) Deterministic models	1	C2	1	10
02	(a)	Explain the concept of a system in the context of modeling and simulation. Name several entities, attributes, activities, events, and state variables for the following systems: i) Gas Station System ii) Banking System	1	C2	1	05
	(b)	Distinguish between: i) Endogenous and Exogenous system ii) Open and closed systems	1	C2	1	05
03	(a)	Explain White box models. What are the advantages and disadvantages of white box models when compared to the black box models?	1	C2	1	05
	(b)	Define and explain live, virtual and constructive simulations with examples.	1	C2	1	05

The End

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

FINAL SEMESTER REGULAR EXAM OF SECOND SEMESTER – THIRD YEAR (6TH SEM.), 2023 OF 20-BATCH, B.E.(CS)

SUBJECT: MODELING AND SIMULATION

Dated: 28.11.2023 Maximum Marks: 60 Time Allowed: 3 Hours.

NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No.		QUESTION	CLO	Taxonomy Level	PLO	Marks
Q. 01		What is simulation and why simulation is necessary before implementation of a system? Briefly describe Monte Carlo simulation and its main characteristics. How Monte Carlo simulation works? Provide an example of a situation where Monte Carlo simulation is used to approximate a value.	1	C2	2	12
Q. 02	(a)	What are different methods for generating pseudorandom numbers? Discuss briefly Mid-square and Mersenne Twister methods for generating pseudorandom numbers.	2	C5	3	06
	(b)	What are the various testing methods that can be applied for checking the efficiency of a random number generator? Using Mid square method, generate five 4-digit random numbers. Use seed value X_0 = 7182.	2	C5	3	06
Q. 03		What is a Simulink and what are its key features? How will you create a model of a dynamic continuous system using Simulink? Which block in Simulink is the generic building block of a dynamic continuous system? Explain the purpose of scope and gain blocks in Simulink. Develop the Simulink model that Converts a Celsius temperature into a Fahrenheit temperature or vice versa.	2	C5	3	12
Q. 04		Discuss briefly Poisson and Binomial random processes by giving their important properties. How these processes differ from each other? What is the probability of exactly k events occurring in a given interval in a Poisson process? At Nawabshah petrol pump, customers arrive according to a Poisson process with an average time of 5 minutes between arrivals. The service time is exponentially distributed with mean time = 2 minutes. Determine: i) Average number of cars in the queue. ii) Average number of cars in the petrol pump iii)Average time spent by a car in the petrol pump iv)Average waiting time of a car before receiving petrol v) Probability that no cares in the petrol pump vi) Utilization rate of this petrol service system.	3	C6	4	12

P.T.O

Q. 05		What is a queuing system? Name and describe the key components of a queuing system. Discuss Kendal notations for describing queuing models. What is the difference between the M/M/1 and M/M/c queuing models? For G/D/1 queuing model, you have given inter arrival times (IATs) and Services times (STs) of 5 customers as given in the following table.	3	C6	4	12

Customer#	IATs	STs
1	5	4
2	3	3
3	16	4
4	5	5
5	1	2

Develop a simulation table that shows inter arrival times, arrival & service times, start and end of service time of customers, time customers spends in queue & system and server idle times.

Good Luck

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

MID-SEMESTER EXAMINATION OF SECOND SEMESTER – THIRD YEAR (6TH SEMESTER) 2023, 20-BATCH, B.E (CS)

SUBJECT: PROFESSIONAL AND SOCIAL ETHICS

Dated: 02.10.2023 Maximum Marks: 10 Time Allowed: 45 Minutes.

NOTE: ATTEMPT ANY TWO (02) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No.		Question	CLO	Taxonomy Level	PLO	Marks
01	(a)	Describe the importance of ethics in engineering? List how can engineer become a responsible Experimenter.	1	C1	6	03
	(b)	Describe the importance of Lawrence Kohlberg's and Carol Gilligan's theory .	1	C1	6	02
02		Identify the key differences between following: • Moral Dilemma and Autonomy • Conceptual and Descriptive Inquires • Code of Ethics and Research Ethics	1	C1	6	05
03	(a)	Discuss the motives for professionalism and the models for professional engineers.	1	A3	11	02
	(b)	Describe in detail Professional Ideals and virtues.	1	A3	11	03

The End

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

FINAL SEMESTER REGULAR EXAM OF SECOND SEMESTER – THIRD YEAR (6TH SEM.), 2023 OF 20-BATCH, B.E (CS)

SUBJECT: PROFESSIONAL AND SOCIAL ETHICS

Dated: 17.11.2023 Maximum Marks: 30 Time Allowed: 02 Hours.

NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No.		QUESTION	CLO	Taxonomy Level	PLO	Marks
Q. 01	(a)	Discuss the significance of Loyalty and Collegiality in Team Work? Also Explain about A Balanced Outlook on Law.	2	A3	11	05
	(b)	Discuss in detail about the Moral and Ethical issues involved in the use of Computers?	3	A4	8	05
Q. 02	(a)	Explain the role of Engineers as Consultants and Expert Witnesses?	3	A4	8	03
	(b)	Discuss the significance of Intellectual Property Rights?	2	A3	11	03
	(c)	Discuss the concept of Business Ethics and Environmental Ethics in Context of Technological development?	3	A4	8	04
Q. 03		Write short notes on the following: a. Professional Rights b. Collective Bargaining c. Occupational Crime d. Confidentiality, why it is needed? e. Global issues that have an impact on Business	2, 3	A3, A4	11, 8	10

Good Luck

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

MID-SEMESTER EXAMINATION OF SECOND SEMESTER – THIRD YEAR (6TH SEMESTER) 2023, 20-BATCH, B.E (CS)

SUBJECT: SOFTWARE ENGINEERING

Dated: 04.10.2023 Maximum Marks: 20 Time Allowed: 01 Hour.

NOTE: ATTEMPT ANY TWO (02) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No.		Question	CLO	Taxonomy Level	PLO	Marks
01		What is software quality assurance? Describe the importance of quality assurance and its objectives?	1	C1	1	10
02		Define Bug, failure, defect severity and priority in software testing?	1	C1	1	10
03		Write short notes on following a) Software Testing Techniques b) Types of software Testing c) SDLC v/s STLC	1	C1	1	10

Good Luck

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

FINAL SEMESTER REGULAR EXAM: OF SECOND SEMESTER – THIRD YEAR (6TH SEM:), 2023 OF 20-BATCH, B.E (CS)

SUBJECT: SOFTWARE ENGINEERING

Dated: 24.11.2023 Maximum Marks: 60 Time Allowed: 3 Hours.

NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No.		QUESTION"	CLO	Taxonomy Level	PLO	Marks
Q. 01	(a)	Describe the software development life cycle and its importance in software engineering?	2	C2	2	06
	(b)	Define spiral model and enlist its advantages?	2	C2	2	06
Q. 02		Discuss the different stages of Project Planning and what is the importance of project planning in project management	2	C2	2	12
Q. 03	(a)	Describes 4Ps in software project management also write the umbrella activities.	2	C2	2	06
	(b)	Describe re-active risk, pro-active risk, predictable and unpredictable risks in software engineering?	2	C2	2	06
Q. 04	(a)	what are the different phases of prototyping model?	3	C3	3	06
	(b)	What is software testing? Describe white box and black box testing?	3	C3	3	06
Q. 05		Write short notes on following: • Water fall model • Software Quality Assurance. • RAD process model	3	C3	3	12

Good Luck

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

FINAL SEMESTER REGULAR EXAM: OF SECOND SEMESTER – THIRD YEAR (6TH SEM:), 2023 OF 20-BATCH, B.E (CS)

SUBJECT: SOFTWARE ENGINEERING

Dated: 24.11.2023 Maximum Marks: 60 Time Allowed: 3 Hours.

NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No.		QUESTION"	CLO	Taxonomy Level	PLO	Marks
Q. 01	(a)	Describe the software development life cycle and its importance in software engineering?	2	C2	2	06
	(b)	Define spiral model and enlist its advantages?	2	C2	2	06
Q. 02		Discuss the different stages of Project Planning and what is the importance of project planning in project management	2	C2	2	12
Q. 03	(a)	Describes 4Ps in software project management also write the umbrella activities.	2	C2	2	06
	(b)	Describe re-active risk, pro-active risk, predictable and unpredictable risks in software engineering?	2	C2	2	06
Q. 04	(a)	what are the different phases of prototyping model?	3	C3	3	06
	(b)	What is software testing? Describe white box and black box testing?	3	C3	3	06
Q. 05		Write short notes on following: • Water fall model • Software Quality Assurance. • RAD process model	3	C3	3	12

Good Luck