

KNIT , Sultanpur
Mid Sem Test -I
MCA(Third Semester)
SUBJECT: Artificial Intelligence (KCA-301)

TIME: 1:00 Hrs.

MM:15

Q1 Attempt any TWO questions

3 x 2=6

- (D) What do you mean by AI? Explain its Applications.
- (E) What do you mean by Natural Language Understanding?
- (F) What do you mean by reasoning? Explain Different types of Reasoning.

Q2 Attempt any TWO questions.

3x2=6

- (A)What is searching? Explain how many type of searching
- (B) Explain in detail Chomsky's Hierarchy.
- (C) What do you mean by NLP?Explain some Terminology of NLP

Q3 Attempt any ONE question.

3 x 1=3

- (C)) Explain in detail AO* Algorithm.
- (D) Explain in detail water Jug problem.

Kamla Nehru Institute of Technology, Sultanpur
MCA III Sem Class Test 1, Odd Sem 2022-23

Roll No.

Time Allowed: 1 Hour

Computer Networks (KCA-303)

Maximum Marks: 15

Note: Attempt any three questions. Each question carries equal marks.

$5 \times 3 = 15$

1. What are the components of computer networks? Explain in brief.
2. Describe briefly the various layers and functions of OSI model.
3. Differentiate among LAN, MAN and WAN networks.
4. Define error detecting and correcting codes. What are its functions in Data-link layer?
5. Why do we prefer CSMA over ALOHA?

| Knowledge Level and Course Outcome – Question wise Mapping | | | | | |
|--|-----|-----|-----|-----|-----|
| Question | 1 | 2 | 3 | 4 | 5 |
| K Level | K1 | K2 | K2 | K3 | K3 |
| CO | CO1 | CO1 | CO1 | CO2 | CO2 |

**KAMLA NEHRU INSTITUTE OF TECHNOLOGY,
SULTANPUR-228118 (U.P.)
First Sessional Examination 2022-23**

Course: MCA

Subject: CNS

Time: 1 hour

Semester: 3rd

Subject Code: KCA-011

Max. Marks: 15

Attempt any three of the following each question carries 5 marks.

- (1) What do you understand by Security attacks? Explain with its' types.
- (2) What is a feistel structure? Explain with its algorithm.
- (3) What is block cipher? Explain with its principles.
- (4) Solve the given equation using Chinese remainder theorem:

$$X \equiv 2 \pmod{3}, X \equiv 3 \pmod{5}, X \equiv 2 \pmod{7}$$

- (5) Explain the RSA algorithm.

Knowledge Level and Course Outcome - Question wise Mapping

| Questions | 1 | 2 | 3 | 4 | 5 |
|-----------|-----|-----|-----|-------|-------|
| K Level | K2 | K2 | K2 | K3,K4 | K3,K4 |
| CO | CO1 | CO1 | CO1 | CO2 | CO2 |

**First Mid Semester Test
MCA-Second Year
(Sem.-III) 2022-23
Software Engineering (KCA 302)**

Time: 1 Hour

MM:15

**NOTE: Attempt any THREE questions.
Each question carries equal marks.**

1. Mention the Advantage and Disadvantage of waterfall model.
2. Define Verification & Validation.
3. What is feasibility study? Explain its types, contents and purpose.
4. What do you understand with the term “requirement elicitation”? Discuss any two techniques.
5. Explain CMM with the help of diagram.

**MCA (Sem. III), 2022-2023
First Mid Semester Test
Soft Computing (KCA021)**

Time: 1 Hour

M.M:15

Note: All questions are compulsory. Assume where required and mention it. Marks are mentioned in front of each question. Calculator can be used by students.

1. What is recurrent neural network? Analyze various architecture proposed in literature for recurrent neural network. [4]
2. Analyze radial basis function neural network. If

$$\Psi = \begin{pmatrix} 1.0 & .1353 & 1 \\ .368 & .368 & 1 \\ .368 & .368 & 1 \\ .1353 & 1.0 & 1 \end{pmatrix}$$

and $y = [0, 1, 1, 0]$. Find weights of radial basis function neural network. [4]

3. Discuss multi-layer feed-forward neural network. Write back propagation training algorithm. [5]
4. Explain soft computing. List main constituents of soft computing. [2]