

Total No. of Questions : 6]

P8867

SEAT No. :

[Total No. of Pages : 2

Oct-22/TE/Insem-629

T.E. (Artificial Intelligence and Data Science)

COMPUTER NETWORKS

(2019 Pattern) (Semester - I) (317521)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Attempt Q.1 or Q.2, Q.3 or Q.4 & Q.5 or Q.6.
- 2) Neat diagram must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data, if necessary.

Q1) a) Match the following functions to one or more layers of OSI model. [3]

- i) Transmission of bit stream across physical medium.
 - ii) Defines Frames.
 - iii) Error correction and retransmission.
 - iv) Reliable Process-to-process message delivery.
 - v) Route selection.
 - vi) Provides user services such as e-mail and file transfer.
- b) Define FHSS and explain how it achieves bandwidth spreading. [5]
- c) Which are the types of guided media? [2]

OR

Q2) a) What is the difference between port address, logical address & Physical address? [4]

b) Generate CRC code for message 1101010101. Generator polynomial is $g(x) = x^4 + x^2 + 1$. [6]

P.T.O.

Q3) a) Explain various networking Devices - Bridge, switch, Router, gateway & Access point. [5]

b) For the bit sequence 10000101111 draw the waveform for [5]

i) Manchester Encoding

ii) Differential Manchester Encoding

OR

Q4) a) Explain pure and slotted ALOHA. [5]

b) What are various design issues of data link layer? [5]

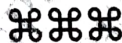
Q5) a) Explain peer to peer network architecture with diagram. [5]

b) Which are the different types of transmission medium? [5]

OR

Q6) a) Explain IEEE 802.11 with protocol stack diagram. [5]

b) Explain working of CSMA/CD with flowchart. [5]



Oct-22/TE/Insem-630
T.E. (AI & DS Engg.)
WEB TECHNOLOGY
(2019 Pattern) (Semester - I) (310252)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) *Answer Q.1 or Q.2, Q.3 or Q.4.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data, if necessary.*

- Q1)** a) Explain in detail role of HTTP protocol in web technology. [6]
b) Explain example of table tag with concept of rowspan and colspan. [5]
c) Write a short note on Style rule cascading and inheritance. [4]

OR

- Q2)** a) Design any web page by using following tag. [6]
fonts, links, frames, lists, tables
b) Explain with suitable example inline, internal and external CSS. [5]
c) Define following terms [4]
i) Internet
ii) Web clients
iii) Web Servers
iv) World Wide Web

P.T.O.

- Q3)** a) Write an HTML page and also provide a JavaScript for accepting a user ID and password from the user to ensure the input is not empty. [6]
- b) Write a note on jQuery. [5]
- c) Explain the document tree and DOM event handling. [4]

OR

- Q4)** a) Explain with example how to access values of text box of form using JavaScript? [6]
- b) How DOM is used for modifying element style explain with suitable example. [5]
- c) What is MVC architecture with respect to Angular JS. [4]

Oct-22/TE/Insem-631

T.E. (Artificial Intelligence and Data Science)

ARTIFICIAL INTELLIGENCE

(2019 Pattern) (Semester - I) (310253)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Answer questions Q.1 or Q.2, Q.3 or Q.4
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Assume suitable data if necessary.

- Q1)** a) What is AI? Explain risk and benefits of AI. [5]
 b) What is Intelligent Agent? Explain structure of agent and example with PEAS Property for Automatic Taxi Driving. [10]

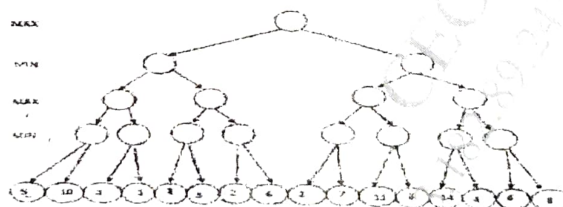
OR

- Q2)** a) Differentiate between informed and uninformed search algorithms also explain iterative deepening search in short. [5]
 b) i) Define state-space search technique
 ii) Define CSP. Solve SEND + MORE [10]

- Q3)** a) Explain the concept of Rationality [5]
 b) i) Explain problem solving agents with suitable example.
 ii) Explain learning agents with its components. [10]

OR

- Q4)** a) Differentiate between model-based agents & utility-based agents [5]
 b) Explain Min Max Tree. Solve alpha-beta tree search for following search problem. Also given minimum two advantages of alpha beta algorithm over min max algorithm. [10]



Oct-22/TE/Insem-641
T.E. (Artificial Intelligence and Machine Learning)
PATTERN RECOGNITION
(Elective-I) (2019 Pattern) (Semester - I) (318545B)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates :

- 1) Answer Q1 or Q2, Q3 or Q4.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicates full marks.
- 4) Assume suitable data, if necessary.

- Q1)** a) What is Pattern Recognition? Explain the application of Pattern Recognition. [5]
- b) What is features and feature vectors? [5]
- c) Explain Gaussian Probability density function in details. [5]

OR

- Q2)** a) Differentiate between Supervised and unsupervised learning with the help of example. [5]
- b) Explain Bayesian classification for normal distribution. [5]
- c) Explain the term decision region and decision boundaries. [5]
- Q3)** a) Write a short note on SVD. [5]
- b) What is vector? Explain the types of vector. [5]
- c) Write a short note on KL transform. [5]

OR

- Q4)** a) State the difference between linear and nonlinear Dimensionality Reduction. [5]
- b) What is principle component analysis? Explain with the help of example. [5]
- c) What is data transformation? Explain the types of data transformation. [5]

