

N.B.

1. All questions are compulsory.
2. Answers to the two sections must be written in same answer book and should be submitted together.
3. Write answers to same question together.

SECTION – I

- Q. 1 A] Elaborate on the term “Testing – An organisational Issue” and the four criteria involved in testing policy. 6
B] Which technological developments are causing organizations to revise their approach to testing? 7

OR

- Q. 1 A] List all eight considerations in developing testing methodologies 6
B] Compare : i) Manual and Automated testing ii) Dynamic and Static Testing 7
- Q. 2 A] Explain the program phase testing in detail. 6
B] Explain tool manager’s workbench for managing testing tools. 7

OR

- Q. 2 A] Explain how to select the appropriate testing tool. 6
B] What are the concerns during testing the requirements? Explain. 7
- Q. 3 A] Explain the contents of test analysis report documentation 6
B] What are the objectives of appointing a tool manager? List the three steps used by manager to manage the use of IT tools. 6

OR

- Q. 3 A] With the help of the workbench explain the process of testing a web based system. 6
B] Explain the tasks involved in testing system security. 6

SECTION – II

- Q. 4 A] Write short note on Paging 6
B] What is meant by covert channels? What are the various ways to implement covert channels? 7

OR

- Q. 4 A] How can we provide user authentication? Explain the various problems against the password protection 6
B] Describe any three types of threats with an example. 7
- Q. 5 A] What are various physical security problems? Discuss on few solutions for the same. 6
B] Write note on IPSec. 6

OR

- Q. 5 A] State and explain the different forms of file protection mechanisms. 6
B] Discuss various firewall configurations 6
- Q. 6 A] Explain in detail about the copyright for computer software and digital objects. 6
B] What is contingency planning? Explain. 6

OR

- Q. 6 A] Explain the factors that should be considered when developing security plan 6
B] Discuss the legal issues relating to information. 6

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- Q. 1 A] Define AI and its internal representation. Write note on “Turing Test” 6
B] What is predicate calculus? Explain components of predicate calculus with example. 7

OR

- Q. 1 A] Write a lisp code that computes a factorial of a number. Explain the execution of the program. 6

- B] Explain different types of interfaces. “Abduction allows false conclusion” Comment. 7

- Q. 2 A] Explain learning as a change. 6

- B] Write a function for the following 7

- i) Sum of n numbers. ii) Union

OR

- Q. 2 A] “Bivalent creates paradoxes” Discuss. 6

- B] What is Elitism? State and explain importance of Elitism. Explain how schema is performing role in deciding elitism. 7

- Q. 3 A] Define Crossover. Explain different types of Crossover methods with example. 6

- B] Compare and contrast between online and offline performance derived by DeJong Model. 6

OR

- Q. 3 A] List the rules for setting up a good data mining environment. 6

- B] Give comparison between supervised and unsupervised learning 6

SECTION – II

- Q. 4 A] Define robotics, artificial intelligence and robot. State the three laws of robotics. 6

- B] Prove that the rotation of a frame A about an arbitrary axis by an angle α is a combination of fundamental rotations. 7

OR

- Q. 4 A] The relative position and orientation of the axes of two successive joints be specified by two link parameters. Explain. 6

- B] Explain how robots can be classified based on drive technology and motion control. 7

- Q. 5 A] With the help of a diagram explain, “Inverse Kinematics is not unique”. 6

- B] Explain the relation between work space analysis and trajectory planning. 6

OR

- Q. 5 A] Define Workspace Envelope. Explain different types of envelopes. 6

- B] Write note on Define Total Work Envelope (TWE) 6

- Q. 6 A] What are moments? What are invariant moments? How are they made invariant to scaling, translation and rotation? Illustrate with examples. 6

- B] Differentiate between NC automation and hard automation. 6

OR

- Q. 6 A] Write note on control problems due to robot moments on inertia 6

- B] How is digital image represented for robotic vision? Write the expression for the digital image. 6

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- Q. 1 A] Define rational agent. Distinguish between rationality and omniscience with suitable illustration. 6
 B] Define game. Explain how minimax algorithm helps in giving optimal solution. 7
- OR**
- Q. 1 A] Write a short note on model based reflex agent. 6
 B] Explain how utility-based agent is different than goal-based agent? Compare the characteristics of utility and goal based agent. 7
- Q. 2 A] State and Compare characteristics of Single layer and Multilayer feed-forward network. 6
 B] State steps require converting every sentence of first-order logic to equivalent CNF sentence. 7
- OR**
- Q. 2 A] Write note on Exhaustive Part Decomposition 6
 B] Explain with suitable example Universal and Existential quantifier. 7
- Q. 3 A] Compare the characteristics between prior probability and conditional probability. 6
 B] Write a short note on expert system shell. 6
- OR**
- Q. 3 A] Compare between supervised learning, unsupervised learning and Reinforcement learning. 6
 B] Define Neural network. State and explain applications of Neural network. 6

SECTION – II

- Q. 4 A] Give comparison between implementation of supervised and unsupervised learning. 6
 B] Explain the least mean square algorithm. 7
- OR**
- Q. 4 A] Explain with an example how neural networks can be used for solving 6
 B] Describe the McCulloch and Pitts models of neuron. 7
- Q. 5 A] Explain the working of back propagation networks. 6
 B] Explain the error correction mechanisms. 6
- OR**
- Q. 5 A] What are essential characteristics of k-means and LMS algorithms? Explain. 6
 B] Explain with an example how neural networks can be used for solving problems. 6
- Q. 6 A] Write a short note on energy function. 6
 B] What is simulated annealing? How does it overcome the problems of traditional problem solving? 6
- OR**
- Q. 6 A] What are the salient features of Boltzmann learning rule? Explain 6
 B] Write a note on Fuzzy measures 6
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- Q. 1 A] Write a short note on QOS architecture 6
B] Explain Video on demand and Interactive cinema. 7
OR
- Q. 1 A] How multimedia system is helpful in Geographical Information System? 6
B] How is compression achieved in motion video? What is symmetric and asymmetric, 7
compression and decompression system?
- Q. 2 A] Define colour fringing, jitter and flag waving. 6
B] Explain speech production, perception and synthesis in short. 7
OR
- Q. 2 A] Explain the three sensor camera with diagram. 6
B] Write a short note on common intermediate format. 7
- Q. 3 A] Write a short note on QMF format. 6
B] Define multimedia communication. Explain the terms synchronization, Latecomers 6
and floor control in shared application architecture.
- OR**
- Q. 3 A] Discuss “Instead of innovating new technology for multimedia applications it is 6
better to use existing technology innovatively”.
- B] Define multimedia interchange. Explain the technical issues addressed in the design 6
of multimedia interchange

SECTION – II

- Q. 4 A] What is Exception? Explain any six Exception classes. 6
B] Write a source code in Java to demonstrate package. 7
OR
- Q. 4 A] Explain ByteStream Class 6
B] What is an Applet? Give comparison between applet and applications. 7
- Q. 5 A] What are MIB and its object names? 6
B] Explain Client, Servers, Managers and Agents. 6
OR
- Q. 5 A] Explain RPC paradigm. 6
B] Explain Middleware. 6
- Q. 6 A] What necessitates Java Security? Explain. 6
B] Write a note on CORBA. 6
OR
- Q. 6 A] What is Socket? What are needed to create a TCP Socket? Which are the well known 6
TCP ports and services?
- B] What are the different types of borders in JFC? 6

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