University School of Information, Communication and Technology
Software Testing (IT-403), B.Tech(IT & CS), 7th Semester
Minor Exam, November, 2023

M.Marks:20

Q1(a) What are the limitations of boundary value analysis technique? Discuss the situations in which it is not effective. 3

Q1(b) Write a program to count the number of digits in a number. Its input is any number from interval [0, 9999]. Design the boundary value analysis test cases and robustness test cases. 6

Q2(a) What are the objectives of testing? Why is the psychology of the testing person important? 2

Q2(b) Write a program to add two digit integers. Can we test the program completely? If so, how many test cases are required? Assume that each test case can be executed and analyzed in one second; how long would it take to execute all test cases? 3

Q3 Differentiate between the following: 6

(i) Alpha and Beta testing
(ii) Fault, bug and failure
(iii) Verification and validation
(iv) Static and dynamic testing
(v) Test, Test case and Test Suite
(vi)Deliverable and milestones

BTech (CSE + IT) 7th semester IT 401 Advanced Computer Networks MM: 20

Q1. What is the difference between analog and digital signal? (1) CO1

Q2. What is the use of special address called as ***This host on this network ?*** (1) CO2

Q3. Explain briefly different types of noises a signal may have. (2) CO1

Q4. Find the class of each address. Give reasons for your answers (2) CO2

(a) 00000001 00001011 00001011 11101111

(b) 11000001 10000011 00011011 11111111

(c) 14.23.120.8

(d) 252.5.15.111

Q5. Explain Reverse Address Resolution Protocol. (4) CO1

Q6. One of the addresses in a block is 180.250.248.62/19. Find the last address of this block? How many addresses are there in this block, calculate using a formula. (4) CO2

Q7. A block having first address as 180.180.0.0/18 is granted to an organization. If four subnets are required , then design the subblocks mentioning the first and last addresses of the subnets. (6) CO2

Minor Examination , Nov 2023, BTech(CSE) 7th Sem, FEDT(Front End Design tools and Web Technologies) :IT 413

Attempt all questions briefly. Time : 1hr, Max Marks : 20

Q1. Differentiate between : (2.5 x 2)

a) Web 2.0 & Web 3.0 b) HTML & DHTML

Q2.a) What are the various steps, issues and challenges in the design and development of a website ? Explain. (2.5 Marks)

b) Explain the various frontend and backend web technologies being used in web industry today. What are the benefits of React JS ? (2.5 Marks)

Q3.a)List down the most commonly used html tags with usage examples. (2.5 Marks)

b) Show the usage of CSS and Java script in web pages with examples. (2.5 Marks)

Q4. a) With the help of a neat diagram of Semantic web layered cake/architecture, explain the various semantic web technologies. (2.5 marks)

b) Write short notes on Seach Engines or cyber laws (2.5 Marks)

University School of Information & Communication Technology, GGSIP University

Minor Test Nov. 2023

Paper Name: Artificial Intelligence **Paper code: IT407**

MM: 20

TIME: 1HR

Q1. Consider the water jug problem: "we have two jugs, a 5-g and the other 3-g with no measuring marks on them. There is endless supply of water trough tap. Our task is to get 4-g water in the 5-g jug." Draw the state space search trees using BFS and DFS. (4+4)

Q2. Consider the following 8 puzzle problem

Initial State

3	7	6
5	1	2
4	□	8

Goal State

5	3	6
7	□	2
4	1	8

Draw the search tree generated using A* algorithm for solving the above given 8 puzzle problem. Clearly mention the value of heuristic function at every level and node. (7)

Q3. Define the production rules for the water jug problem (as given in Q.1). Find a solution path for this problem using these production rules. (5)