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| **SAINTGITS COLLEGE OF ENGINEERING**  **DEPARTMENT OF COMPUTER APPLICATIONS**  SECOND SERIES EXAMINATION, OCTOBER 2017 | | | | | | | | | | |
| **Course Code: RLMCA 201** | | | | | | | | | | |
| **Course Name: Computer Networks ( A & B Batch)** | | | | | | | | | | |
| Max. Marks: 39 | | | | | |  | | Duration: 2 Hours | | |
| **PART A** | | | | | | | | | | |
|  |  | | ***Answer all questions, each carries3 marks.*** | | | | | | | Marks |
| 1 |  | | Define Finite State Machine.  Definition : 2 marks  Example: 1 mark | | | | | | | 3 |
| 2 |  | | Compare and Contrast TCP socket and UDP socket.  TCP socket with format: 1.5 marks  UDP socket with format: 1.5 marks | | | | | | | 3 |
| 3 |  | | Comment on Multiplexing and De multiplexing Process.  Multiplexing: 1 mark  De multiplexing: 1 mark  Diagram: 1 mark | | | | | | | 3 |
| 4 |  | | Write Notes on fairness and efficiency in networks.  Fairness definition with proper explanation: 1.5 Marks  Efficiency Definition with explanation: 1.5 Marks | | | | | | | 3 |
| 5 |  | | List out the major characteristics of Routing Algorithm.  6 Characteristics: 3 marks | | | | | | | 3 |
| 6 |  | | Why we need ICMP in Networks.  What is ICMP: 1 mark  ICMP with its relevance in network with message codes: 2 Marks | | | | | | | 3 |
| 7 |  | | What are the services offered by Transport Layer and Network Layer?  Services offered by Transport layer: 1.5 Marks  Services offered by Network layer: 1.5 Marks | | | | | | | 3 |
| **(7 X 3 =21 )** | | | | | | | | | | |
| **PART B** | | | | | | | | | | |
| ***Answer all questions, each carries6 marks*** | | | | | | | | | | |
| 9 | a) | | Why do you think DNS uses UDP, instead of TCP, for its query and response messages? How can iterated DNS queries improve the overall performance?  DNS definition: 1 mark  DNS and UDP: 2 marks  DNS Query and Response with Example:1Marks  Iterative DNS query in DNS with example: 2 marks | | | | | | | 6 |
| **OR** | | | | | | | | | | |
| 9 | b) | | Examine the hybrid network architecture by considering the applications Skype or Torrent.  Hybrid architecture with explanation: 3 marks  Skype/ Torrent Features with example: 3 marks | | | | | | | 6 |
|  |  | |  | | | | | | |  |
| 10 | a) | | Analyze the design of Stop-and-wait ARQ and Go-back- N protocol ARQ.  Stop-and-wait ARQ with explanation: 2 marks  Diagram : 1 mark  Go-back- N protocol ARQ with explanation: 2 marks  Diagram : 1 mark | | | | | | | 6 |
| **OR** | | | | | | | | | | |
| 10 | b) | | Identify the relevance of Transport layer with a Comparison to Connection oriented and connection less Services.  Transport layer with its services and relevance: 2 marks  TCP with explanation: 2 marks  UDP with explanation: 2 Marks | | | | | | | 6 |
|  | | | | | | | | | | |
| 11 | a) | | Interpret the different routing strategies used in network layer.  Network Layer Functionality: 1 mark  Routing: 1 Mark  Forwarding:1 Mark  Types of routing algorithm: 2 Marks  Features of Routing algorithm: 1 marks  Routing Protocol: 1 mark | | | | | | | 6 |
| **OR** | | | | | | | | | | |
| 11 | b) | | Analyze the Network layer device Router with respect to its architecture.  Network Layer Functionality: 1 mark  Router with architecture: 3 marks  Diagram: 1 mark  Functionality: 1 mark | | | | | | | 6 |
| **( 3 X 6 = 18)** | | | | | | | | | | |