



**RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES**

**B.Sc. (General) Degree in Information and Communication Technology
Second Year - Semester II Examination – February/March 2019**

ICT 2406 – INTERNET PROGRAMMING

ANSWER ALL QUESTIONS

Time: Three (3) hours

1

- (a) What are the characteristics of internet protocol?
(03 marks)
- (b) Write the advantages a circuit-switched network has over a packet-switched network.
(04 marks)
- (c) What is the purpose of DSLAM?
(03 marks)
- (d) Briefly describe following IPV4 datagram header contents.
 - i. Time to live
 - ii. Header checksum
 - iii. Type of service
 (06 marks)
- (e) Briefly describe four step process of DHCP.
(04 marks)

2

- (a) From where do the home network computers obtain their IP addresses and from where the router gets its single IP address?
(05 marks)
- (b) How does the router know the internal host which it should forward a given datagram to?
(05 marks)

- (c) How do routers determine the best path? Briefly explain. (03 marks)
- (d) "Dynamic routing protocols have advantages over static routes." Discuss this statement. (04 marks)
- (e) What is the equal cost load balancing in routers? (03 marks)

3

- (a) What are the differences between TCP and UDP protocols? Describe with reference to following characteristics. (04 marks)
 - i. Reliability
 - ii. Ordering
 - iii. Speed
 - iv. Congestion or Flow control
- (b) Do you agree with the statement, "There is no notion of client and server sides of a communication session for a P2P file-sharing application"? Why or why not? (06 marks)
- (c) Suppose you wanted to do a transaction from a remote client to a server as fast as possible. Would you use UDP or TCP? Why? (05 marks)
- (d) Describe main components in a URL using a suitable example. (05 marks)

4

- (a) How do Web clients request Web pages from Web servers and how do servers transfer Web pages to clients? Explain using a diagram. (06 marks)
- (b) Discuss the risk in web caching. (04 marks)
- (c) What are the major differences between HTTP and FTP? (04 marks)
- (d) Imagine you have to receive an e-mail. How do you run a user agent on your local PC (Personal Computer) to obtain your messages? What are the settings? (03 marks)
- (e) Compare and contrast IMAP and POP3. (03 marks)

5

- (a) What are the other services that DNS provide in addition to the normal domain name service? Explain. (04 marks)
- (b) Elaborate the main socket-related activity of the client and server that communicate over the UDP transport service. (06 marks)
- (c) In a client server application, why is it necessary to execute server program before client program? (04 marks)
- (d) Briefly describe main multimedia applications and their categories. (06 marks)

-----END-----