



**WEST BENGAL STATE UNIVERSITY**  
B.Sc. Honours 6th Semester Examination, 2022

**ELSADSE05T-ELECTRONICS (DSE3/4)**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.  
Candidates are required to give their answers in their own words as far as practicable.  
All symbols are of usual significance.*

**GROUP-A**

1. Answer any *five* questions from the following: 2×5 = 10
- (a) What are the advantages of 'Switch' over 'Hub'? 2
  - (b) What do you mean by ARQ? Explain. 2
  - (c) Explain the concept of subnet. 2
  - (d) What are the different types of classes in IPV4 addressing? 2
  - (e) What do you understand by multicast routing? 2
  - (f) What is a domain name? Name one guided medium that is immune to electromagnetic interference. 1+1
  - (g) What do you mean by packet switching? How does it differs from circuit switching? 1+1
  - (h) What is the difference between congestion control and flow control? 2

**GROUP-B**

**Answer any six questions from the following** 5×6 = 30

2. Write a short note on a digital-to-digital encoding system of your choice. 5
3. Explain the bus topology and ring type topology network. Compare their performance. 3+2
4. What is FDDI? How can you design a LAN based on FDDI? 1+4
5. Write short notes on the following protocols: 2 $\frac{1}{2}$ +2 $\frac{1}{2}$
- (a) ARP
  - (b) ICMP.

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| 6.  | What are the source of errors in data communication? What are general principle of error detection and correction? | 2+3 |
| 7.  | (a) What are the differences between Host-to-Host and Process-to-Process delivery?<br>(b) What do you mean by QoS? | 4+1 |
| 8.  | Describe in brief the sliding window protocol.   | 5   |
| 9.  | How Shannon's theorem corrects the Nyquist theorem? Explain in brief.  | 5   |
| 10. | With a neat diagram, explain OSI reference model.  | 5   |
| 11. | (a) How domain name system translates between URL and IP addresses?<br>(b) What is a datagram?                     | 3+2 |

**N.B. :** *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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