



UNIVERSITY OF NORTH BENGAL

B.Sc. General Part-II Examination, 2021

COMPUTER SCIENCE

PAPER-V (Revised New Syllabus)

Full Marks: 50

ASSIGNMENT

*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.*

Answer any two questions from the following 25×2 = 50

1. (a) Explain the need for having a bus system to interconnect several registers. Design a bus system to interconnect four 4-bit registers using multiplexers and decoders. 3+7=10
- (b) Compare the following: 5+5+5=15
 - (i) Logical shift and Arithmetic shift
 - (ii) Relative addressing and Indexed addressing
 - (iii) Physical and virtual memories.

2. (a) Describe the interrupt-driven data transfer with the help of a flowchart. In what type of situation is this type of transfer used? 8+2=10
- (b) Explain with the examples direct, indirect, immediate and relative addressing modes. 10
- (c) Discuss memory hierarchy with the help of a suitable diagram. 5

3. (a) Compare between DFD and ERD with examples. 10
- (b) Draw a DFD or an ERD for a travel agency involved in air/train ticketing, hotel booking, local sightseeing and package tours. 10
- (c) Discuss the various responsibilities of a system analyst. 5

4. (a) What do you mean by feasibility study? Discuss the issue of feasibility study in a system design cycle. 2+8=10
- (b) Discuss different data gathering techniques. 5
- (c) How do you test and validate a system? Discuss. 5
- (d) Compare between cohesion and coupling. 5

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