UNIVERSITY OF NORTH BENGAL

B.Sc. Honours Part-III Examination, 2022

COMPUTER SCIENCE

PAPER-VI

Time Allotted: 4 Hours   Full Marks: 100

The figures in the margin indicate full marks.
All symbols are of usual significance.

Answer any *five* questions from the following   20×5 = 100

1. (a) Who is called DBA? Write the function of DBA. What are the major components of Database Managers?   2+4+4 = 10

   (b) What is database model? Explain the advantages of DBMS over file based systems.   4+6 = 10

2. (a) What is normalization? Explain different normal forms till BCNF.   2+8 = 10

   (b) What is relational system? Discuss different types of data models.   3+7 = 10

3. (a) What is software engineering? Explain waterfall model with a neat diagram. Mention its merits and demerits.   2+4+4 = 10

   (b) What is SRS? Explain the different phases of SDLC.   2+8 = 10

4. (a) What is feasibility study? Explain various types of testing techniques.   3+7 = 10

   (b) Explain briefly COCOMO model with an example.   10

5. (a) What is an IDE in Visual Basic? What is an MDI form? Explain with an example.   2+3+5 = 10

   (b) What is a Variant data type? Explain different entry controlled looping statement in VB with an example.   2+8 = 10

6. (a) Explain briefly characteristics of OOPS and mention advantages of it over procedural programming.   10

   (b) What is browser? Differentiate between IPv4 and IPv6 addressing.   2+8 = 10

7. (a) Describe the relational algebras: 2×5 = 10

     (i)   Select

     (ii)   Project

     (iii) Cartesian product

     (iv) Intersection

     (v)   Natural join.

  (b) Write short notes on (any *two*):   5×2 = 10

     (i)   Data Dictionary

     (ii)   PL/SQL

     (iii) Integrity Constraints.

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