WEST BENGAL STATE UNIVERSITY

B.A./B.Sc. Programme 6th Semester Examination, 2021

CMAGDSE04T-COMPUTER APPLICATION (DSE2)

SOFTWARE ENGINEERING

Time Allotted: 2 Hours | Full Marks: 50

The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.

GROUP-A

1. Answer any ***five*** questions from the following: 2×5 = 10

   (a) What is the difference between fault and failure?

   (b) What is SDLC?

   (c) Which diagram is used for process modeling and which diagram is used for data modeling?

   (d) What are the main differences between Quality Assurance, Quality Control and Software Testing?

   (e) What are the characteristics of a software product?

   (f) What do you mean by early defect removal?

   (g) Mention any two limitations of Waterfall Model.

GROUP-B

Answer any *five* questions from the following 8×5 = 40

2. (a) What are the challenges of Software Engineering? 2

   (b) Explain Software Quality and Productivity factors. 3+3

3. (a) What do you mean by requirement analysis? Why SRS is required? 2+2

   (b) What are the characteristics of a good SRS document? 4

4. (a) What do you mean by Feasibility Analysis? 2

   (b) Explain the phases of Classical Waterfall Model with advantages. Why Spiral model is called meta model? 4+2

5. (a) What do you mean by data dictionary? Explain with an example. Why it is used? 2+1

   (b) What do you understand by Data Flow Diagram (DFD)? Draw the level 1 DFD for a Library Management System. 2+3

6. (a) What are the different level of testing in software engineering? 2

(b) Write down the differences between black box testing and white box testing. 3

(c) What is alpha and beta testing in software engineering? Define with suitable example. 3

7. What is control flow graph? Draw the control flow graph of the following code for gcd computation and also determine the minimum number of test cases required for testing the code segment. 2+4+2

```
int gcd (int x, int y){
while (x! = y){
if ( x > y ) then
 x = x – y ;
else  y = y – x ;
}
return x;
}
```

8. Write short notes on any ***two*** of the following: 4+4

(a) Different types of Coupling

(b) Structure Chart

(c) Mutation Testing

(d) Use Case Diagram.

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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