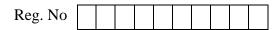# GIET UNIVERSITY, GUNUPUR – 765022
B. C. A (Fourth Semester) Examinations, May - 2024
## BCA20401 – Software Engineering

Time: 3 hrs                                                      Maximum: 70 Marks

**The figures in the right hand margin indicate marks.**

**PART – A: (Multiple Choice Questions)**                    **(1 x 10 = 10 Marks)**

Q. 1 Answer *ALL* questions

| | | CO # | PO # |
|---|---|---|---|

a. Who is the father of Software Engineering? — CO1 PO1
   i.   Margaret Hamilton          ii.   Watts S. Humphrey
   iii. Alan Turing               iv.   Boris Beizer

b. _____ is not a fundamental activity for software processes in software development. — CO1 PO1

   i.   Evolution                 ii.   Design and implementation
   iii. Validation               iv.   Verification

c. _____ is a software development life cycle model that is chosen if the development team has less experience on similar projects. — CO2 PO1
   i.   Iterative Enhancement Model   ii.   RAD
   iii. Spiral                   iv.   Waterfall

d. A step by step instruction used to solve a problem is known as — CO2 PO1
   i.   Sequential structure       ii.   A List
   iii. A plan                   iv.   An Algorithm

e. Actual programming of software code is done during the _____ step in the SDLC. — CO1 PO1
   i.   Maintenance and Evaluation  ii.   Design
   iii. Analysis                 iv.   Development and Documentation

f. Identify the correct functional requirement. — CO3 PO1
   i.   robustness               ii.   Portability
   iii. Maintainability          iv.   None

g. Identify the correct measure for correctness. — CO3 PO1
   i.   errors per KLOC          ii.   $ per KLOC
   iii. defects per KLOC         iv.   None

h. Material Requirement Planning (MRP) utilizes software applications for scheduling _____. — CO4 PO1

   i.   Sales management.         ii.   Production processes.
   iii. Marketing techniques.     iv.   Human resource management.

i. ERP supports _____ currency value. — CO4 PO1
   i.   multiple.                 ii.   Single.
   iii. three.                   iv.   five.

j. ERP package will handle _____ business functionalities. — CO4 PO1
   i.   1                        ii.   2
   iii. 3                        iv.   all

**PART – B: (Short Answer Questions)**                    **(2 x 10 = 20 Marks)**

Q.2. Answer _ALL_ questions                              CO #   PO #

| | | | |
|---|---|---|---|
| a. | Mention the Advantages and Disadvantages of waterfall model. | CO1 | PO1 |
| b. | What are the phases encompassed in the RAD model? | CO1 | PO2 |
| c. | List the characteristics of SRS. | CO2 | PO1 |
| d. | Write a short note on Technical Feasibility with an example. | CO2 | PO1 |
| e. | Define UML. | CO2 | PO1 |
| f. | Define White Box testing. | CO3 | PO2 |
| g. | With a neat diagram, explain the use of stub and driver in unit testing. | CO3 | PO1 |
| h. | Define the terms: Failure, Test case and Test Suite. | CO3 | PO1 |
| i. | Write a short note on Software Maintenance. | CO4 | PO1 |
| j. | What is CRM? | CO4 | PO2 |

**PART – C: (Long Answer Questions)**                    **(10 x 4 = 40 Marks)**

Answer _ALL_ questions                          Marks   CO #   PO #

| | | | | |
|---|---|---|---|---|
| 3.a. | Explain the linear software life cycle model with suitable illustration. Bring out the demerits of this model. | 5 | CO1 | PO1 |
| b. | Explain briefly Software Application domains with examples. | 5 | CO1 | PO2 |
| | **(OR)** | | | |
| c. | What do you mean by Software Requirement? Explain the types of requirements. | 5 | CO1 | PO2 |
| d. | Discuss the advantages and disadvantages of Prototype Model. | 5 | CO1 | PO3 |
| | | | | |
| 4.a. | Explain with a neat diagram the Requirement Engineering Process. | 10 | CO2 | PO1 |
| | **(OR)** | | | |
| b. | Explain the notations used in Activity Diagram. | 4 | CO2 | PO2 |
| c. | Draw a DFD for Library Management System. | 6 | CO2 | PO3 |
| | | | | |
| 5.a. | Explain the types of Integration testing with examples. | 10 | CO3 | PO2 |
| | **(OR)** | | | |
| b. | Define the use of black Box Testing with a real-time example. | 10 | CO3 | PO2 |
| | | | | |
| 6.a | Discuss the benefits of ERP. | 5 | CO4 | PO1 |
| b. | What are the advantages and disadvantages of MRP? | 5 | CO4 | PO1 |
| | **(OR)** | | | |
| c. | Draw the Boehm's Model and explain. | 5 | CO4 | PO1 |
| d. | Explain the structure of CMM. | 5 | CO4 | PO1 |

--- End of Paper ---