**POORNIMA UNIVERSITY, JAIPUR**

**END SEMESTER EXAMINATION, November 2022**

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|  | **2BC3126** | Roll No. | Total Printed Pages: 2 |
| **2BC3126** |  |
| BCA II Year III-Semester (Back) End Semester Examination, November 2022  **(DS)** | |
| **BCD03104 : Software Engineering** | | | |

# Time: **3** Hours. Total Marks: **60**

Min. Passing Marks: **21**

Attempt **five** questions selecting one question from each Unit. There is internal choice from Unit I to Unit V. Marks of each question or its parts are indicated against each question / parts. Draw neat sketches wherever necessary to illustrate the answer. Assume missing data suitably (if any) and clearly indicate the same in the answer.

Use of following supporting material is permitted during examination for this subject.

# **1.--------------------------Nil--------------------** **2.------------------Nil-----------------------**

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|  |  | **UNIT-I (CO1)** | **Marks** | **Bloom Level** |
| **Q.1** | **(a)** | State the difference between program and software. why have documents and documentation become very important? | **(6)** | **Evaluation** |
|  |  |  |  |  |
|  | **(b)** | Compare the waterfall model and the spiral model of software development. | **(6)** | Analysis |
|  |  | **OR** |  |  |
| **Q.2** | **(a)** | Elaborate the prototype model. What is the effect of designing a prototype on the overall cost of the software project? | **(6)** | Understanding and remembering |
|  |  |  |  |  |
|  | **(b)** | Suppose a user is satisfied with the performance of a prototype. If he/she is interested to buy this for actual work, what should be the response of a developer? | **(6)** | Application |
|  |  | **UNIT-II (CO2)** |  |  |
| **Q.3** | **(a)** | Consider the problem of library management system and design the following:   1. Problem statement 2. Use case diagram 3. Use cases | **(6)** | Analysis and application |
|  |  |  |  |  |
|  | **(b)** | Discuss the organization of software requirement specification (SRS)? List the important issues, which an SRS must address. | **(6)** | Remembering and analysing |
|  |  | **OR** |  |  |
| **Q.4** | **(a)** | Plan and draw a DFD for result preparation automation system of BCA courses of any university. Clearly describe the working of the system. Also mention all assumptions made by you. | **(6)** | Application |
|  |  |  |  |  |
|  | **(b)** | Discuss the differences between the following:  (a) Functional and non-functional requirements.  (b) User and System requirements | **(6)** | Analysis |
|  |  | **UNIT-III (CO3)** |  |  |
| **Q.5** | **(a)** | A project size of 200 KLOC is to be developed. Software development team has average experience on similar type of projects. The project schedule is not very tight. Calculate the effort, development time, average staff size and productivity of the project. | **(6)** | Application |
|  |  |  |  |  |
|  | **(b)** | A project undergoes through many issues during the process and even after the deployment. Interpret the meaning of risk and related risk management activities? Will it be possible to prioritize the risk? | **(6)** | Creating and understanding |
|  |  | **OR** |  |  |
| **Q.6** | **(a)** | Devise the problems that may arise if a module has low cohesion? | **(6)** | evaluating |
|  |  |  |  |  |
|  | **(b)** | Outline the objectives of software design. How do we transform an informal design to a detailed design? | **(6)** | analysing |
|  |  |  |  |  |
|  |  | **UNIT-IV (CO4)** |  |  |
| **Q.7** | **(a)** | Interpret the concept of cyclomatic complexity? Explain with the help of an example. | **(6)** | Knowledge |
|  |  |  |  |  |
|  | **(b)** | Imagine you’re working as a software tester and while encountering the developed software product, you found some issues. Being a tester how would you define a software failure? How is it related with a fault | **(6)** | Knowledge |
|  |  | **OR** |  |  |
| **Q.8** | **(a)** | Highlight the various debugging approaches? Discuss the differences between white and black box testing? Is determining this case is easier in black or white box testing? | **(6)** | Analysis |
|  |  |  |  |  |
|  | **(b)** | A professor assigned a project to his students. In this project there are many phases as discussed in Software development life cycle. Create documentation in which mention the purpose of integration testing and denote how it is different from system testing. | **(6)** | Analysis |
|  |  | **UNIT V (CO5)** |  |  |
| **Q.9** | **(a)** | Apoorva is working as a team lead in ABC International and she wants to brief the process of maintenance to the juniors. Elaborate the best possible way to outline the process of software maintenance and various categories of maintenance. Which category do you think consumes maximum effort and why? | **(6)** | Understanding and evaluating |
|  |  |  |  |  |
|  | **(b)** | Outline the quick fix model. What are the advantages and disadvantages of this model? | **(6)** | knowledge |
|  |  | **OR** |  |  |
| **Q.10** | **(a)** | Enlighten the concept of reverse engineering. Discuss levels of reverse engineering. | **(6)** | Analysis and understanding |
|  |  |  |  |  |
|  | **(b)** | A maintenance team must report some changes as per the present modification in the deployed product. What do you think if it will be feasible to specify maintainability in the SRS? If yes, how would we specify it? | **(6)** | **E**valuate |