**POORNIMA UNIVERSITY, JAIPUR.**

**END SEMESTER EXAMINATION, April 2023**

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|  | **4BC2113** | Roll No. | Total Printed Pages: 2 |
| **4BC2113** |  |
| BCA II Year IV Semester (Back) End Semester Examination, April, 2023 | |
| **BCA04104 : 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** |
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| **Q.1** | **(a)** | Suppose you have to develop an ERP system for your University. Which software development model will you follow to develop the software? Explain with proper justification. | **(6)** | **Analyse** |
|  |  |  |  |  |
|  | **(b)** | Differentiate between software verification and validation in brief. | **(6)** | **Analyse** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
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| **Q.2** | **(a)** | Discuss about different models of SDLC. If all requirements are known in prior, which model will you prefer to develop the software? | **(6)** | **Analyse** |
|  |  |  |  |  |
|  | **(b)** | Suppose you have to develop complex software in short duration. Which software development model would you follow? Explain in brief. | **(6)** | **Analyse** |
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|  |  | **UNIT-II (CO2)** |  |  |
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| **Q.3** | **(a)** | Differentiate between functional and non-functional requirements. Give an example to support your answer. | **(6)** | **Analyse** |
|  |  |  |  |  |
|  | **(b)** | Suppose you are working as software project manager for Travel and Tour related software project. Discuss various steps involved in Software Requirement Engineering Process for this. | **(6)** | **Analyse** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.4** | **(a)** | What do you mean by Software Requirement Specification (SRS)? Create a SRS for Railway Reservation System. | **(6)** | **Create** |
|  |  |  |  |  |
|  | **(b)** | Define Data Dictionary. What are its importance? Explain in brief. | **(6)** | **Understand** |
|  |  |  |  |  |
|  |  | **UNIT-III (CO3)** |  |  |
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| **Q.5** | **(a)** | Define System. Discuss importance of system engineering in brief. | **(6)** | **Analyse** |
|  |  |  |  |  |
|  | **(b)** | Suppose You are working in a ISRO software development team for Chandra-yan. Discuss the control and monitoring system need to adopt for successful completion of the mission. | **(6)** | **Analyse** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
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| **Q.6** | **(a)** | What do you mean by design process? Discuss basic principles of User Interface design. | **(6)** | **Understand** |
|  |  |  |  |  |
|  | **(b)** | Define Cohesion and coupling. Write down different types of cohesion and its importance. | **(6)** | **Understand** |
|  |  |  |  |  |
|  |  | **UNIT-IV (CO4)** |  |  |
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| **Q.7** | **(a)** | Company SigmaX wants to move for Integration testing. You being the Software Tester how will you incorporate the steps involved in Integration Testing for you Software which is based on Online Shopping Website. | **(6)** | **Analyse** |
|  |  |  |  |  |
|  | **(b)** | Discuss the importance of Black Box testing? How it performs. What are different methods of Black Box Testing? | **(6)** | **Understand** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.8** | **(a)** | Write down the fundaments of software testing. Compare and contrast among Black Box, White Box and Grey Box testing. | **(6)** | **Analyse** |
|  |  |  |  |  |
|  | **(b)** | What do you mean by structural testing? How it performs? Write down the method to measure the effectiveness of structural testing. | **(6)** | **Understand** |
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|  |  | **UNIT V (CO5)** |  |  |
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| **Q.9** | **(a)** | Suppose you are working on any medium size enterprise project. Elaborate various challenges for project management. | **(6)** | **Understand** |
|  |  |  |  |  |
|  | **(b)** | Explain why we need to measure software or products. Explain Function Point model in brief. | **(6)** | **Understand** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.10** | **(a)** | Discuss importance of Risk Management for Software project. Write down basic principles to be followed to develop a medium size enterprise project. | **(6)** | **Understand** |
|  |  |  |  |  |
|  | **(b)** | Suppose size of an Embedded software product is 80000 lines, Average salary is 24000/- per month. Determine the effort, time and cost required to develop the software product. | **(6)** | **Apply** |