

AK-104

April-2024

B.C.A., Sem.-IV**CC-209 : System Analysis, QA and Testing****Time : 2½ Hours]****[Max. Marks : 70**

1. Write the following :

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| (1) Explain Waterfall model in detail with neat diagram. | 7 |
| (2) Draw context level and first level DFD for online shopping system. | 7 |

OR

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| 1. (1) List all fact finding techniques. Explain Interview and Observation in detail. | 7 |
| (2) Draw context level and first level DFD for school management system. | 7 |

2. Write the following :

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| (1) Draw use case diagram for event management system. | 7 |
| (2) Explain the constituents of OOAD in detail. | 7 |

OR

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| 2. (1) Draw use case diagram of banking system where customer will register and open their account. Customer uses bank services like deposit cash, withdraw cash, check balance, issue check book. Bank manager will be responsible to generate reports. | 7 |
| (2) Explain different types of elements in sequence diagram. | 7 |

3. Write the following :

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|---|---|
| (1) Explain different types of elements in Activity Diagram. | 7 |
| (2) Create a class diagram for library management system. In this system, student and faculty can issue and return different categories of books like Journals, Magazines and Study Books. When there is book request the librarian checks for book availability. If the book is available, book issued otherwise display non-availability message. | 7 |

OR

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| 3. (1) List all elements of class diagrams. Explain Association and Generalization with example. | 7 |
| (2) Draw an activity diagram for MCA Admission System. | 7 |
- MCA admission procedure is controlled by Gujarat University is as follows:
- Gujarat University advertises the date of MCA entrance examination.
 - Student has to apply for the entrance examination.
 - Results are declared by Gujarat University.
 - The student has to fill up option form to select the college of his/her choice.
 - Gujarat University displays the allotment list in the website and notification to all colleges.
 - Student should report the allotted colleges and complete the admission procedure.

4. Write the following :
(1) Explain integration testing with its types. 7
(2) Write a short note on System Testing. 7

OR

4. (1) Explain black box testing in detail. 7
(2) Define acceptance testing. Explain acceptance criteria in detail. 7

5. Attempt any **seven** out of **twelve** : 14

- (1) A class is divided into which of these compartments?
(a) name of class (b) attributes
(c) operations (d) All of the above
- (2) In waterfall model, output of one phase is input to the next phase. (True/False)
- (3) _____ diagram is time oriented.
(a) Sequence (b) Activity
(c) Class (d) None of the above
- (4) Static testing based on principle of human reading of program code to detect errors rather than computer executing the code to find errors. (True/False)
- (5) Which one is not a type of feasibility study ?
(a) economic (b) technical
(c) schedule (d) incremental
- (6) _____ testing is used to check the code.
(a) White box testing (b) Closed box testing
(c) Black box testing (d) None of the above
- (7) There are multiple final states in activity diagram. (True/False)
- (8) _____ symbol is used in DFD to represent data that the system stores.
(a) External entity (b) Data store
(c) Process (d) Data flow
- (9) Which one of the following is not combined fragment in sequence diagram ?
(a) alt (b) loop
(c) opt (d) for
- (10) _____ type of relationship in use case diagram has optional behaviour.
(a) Extend (b) Include
(c) Both (d) None
- (11) Composition indicate strong life cycle associated between the classes. (True/False)
- (12) The multiplicity notation 0.....* means _____.
(a) one to many (b) zero to one
(c) zero to many (d) many to many