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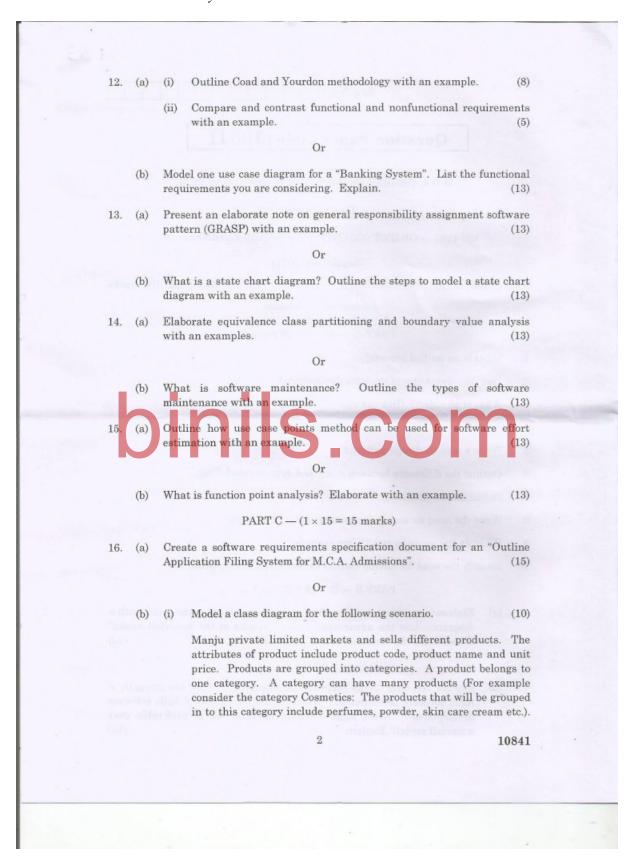## Question Paper Code : 10841

M.C.A. DEGREE EXAMINATIONS, APRIL/MAY 2023

First Semester

MC 4102 — OBJECT ORIENTED SOFTWARE ENGINEERING

(Regulations 2021)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is an unified process?

2. List the advantages of iterative development.

3. What is an object? Give example.

4. Outline the need for object oriented analysis.

5. Write a note on design patterns.

6. Outline the difference between static and dynamic modelling.

7. Define mutation testing.

8. Write the need for regression testing. Give an example.

9. What do you mean by risk? Give example.

10. Identify the need for having metrics in Software Development.

PART B — (5 × 13 = 65 marks)

11. (a) Elaborate on the waterfall software development life cycle model with a diagram. List the advantages and drawbacks of the waterfall model? When to use the waterfall model? Explain.   (13)

Or

(b) Explain the term "Agile Software Development". What are strength of Agile software development? What are the limitations of Agile software development? When Agile software development is preferable over waterfall model? Explain.   (13)

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12. (a) (i) Outline Coad and Yourdon methodology with an example. (8)

(ii) Compare and contrast functional and nonfunctional requirements with an example. (5)

Or

(b) Model one use case diagram for a "Banking System". List the functional requirements you are considering. Explain. (13)

13. (a) Present an elaborate note on general responsibility assignment software pattern (GRASP) with an example. (13)

Or

(b) What is a state chart diagram? Outline the steps to model a state chart diagram with an example. (13)

14. (a) Elaborate equivalence class partitioning and boundary value analysis with an examples. (13)

Or

(b) What is software maintenance? Outline the types of software maintenance with an example. (13)

15. (a) Outline how use case points method can be used for software effort estimation with an example. (13)

Or

(b) What is function point analysis? Elaborate with an example. (13)

PART C — (1 × 15 = 15 marks)

16. (a) Create a software requirements specification document for an "Outline Application Filing System for M.C.A. Admissions". (15)

Or

(b) (i) Model a class diagram for the following scenario. (10)

Manju private limited markets and sells different products. The attributes of product include product code, product name and unit price. Products are grouped into categories. A product belongs to one category. A category can have many products (For example consider the category Cosmetics: The products that will be grouped in to this category include perfumes, powder, skin care cream etc.).

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The attributes of category include category code and category name. Sales executive in the company are responsible for marketing and selling products to customers residing in different locations. The attributes of sales executive include sales executive id, name, date born, gender and mobile number. The attributes of customer include id, name, date born, gender and mobile number. The attributes of location include location code and location name. A sales executive markets and sells only one category in only one location. A location can have many sales executives marketing and selling different categories of products. The products purchased by the customers, date of purchase and number of units purchased have to be kept track.

(ii) What is a prototype? Outline throw away prototype and evolutionary prototype with an example. (5)

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