QPC: RM19MCA035 AR- 19 Reg. No

GIET UNIVERSITY, GUNUPUR – 765022

M. C. A (Fourth Semester) Examinations, May' 2021

MCA 403 – Software Engineering & OOAD

Time: 2 hrs Maximum: 50 Marks

The figures in the right hand margin indicate marks.

PART – A **(2 x 10 = 20 Marks)**

Q.1. Answer ***ALL*** questions

a. Differentiate Programs and Software Products.
b. List the two important principles that are deployed by software engineering to overcome the problems arising due to human cognitive limitations?
c. Identify the type of Risk: What if the mobile phones that are developed become too bulky in size to conveniently carry?
d. List any four Characteristics of a Good SRS Document?
e. How to Identify the Functional Requirements?
f. What is Software Architecture?
g. What is meant by cohesion and coupling?
h. List types of reviews are carried out on the code of a module?
i. What is MTTF?
j. What is stub?

PART – B **(6 x 5 = 30 Marks)**

Answer ***ANY FIVE*** questions Marks

2. Compare RAD with other life cycle models. (6)
3. What is meant by the size of a software project? Why does a project manager need to estimate the size of the project? How is the size estimated? (6)
4. Draw a class diagram using the UML syntax to represent an Order System of an application. First of all, Order and Customer are identified as the two elements of the system. They have a one-to-many relationship because a customer can have multiple orders. Order class is an abstract class and it has two concrete classes (inheritance relationship) Special Order and Normal Order. The two inherited classes have all the properties as the Order class. In addition, they have additional functions like dispatch () and receive (). (6)
5. What are design patterns? What are the advantages of using design patterns? Name some popular design patterns. (6)
6. What is the Six Sigma quality initiative? To which category of industries is it applicable? Explain the Six Sigma technique adopted by software organisation with respect to the goal, the procedure, and the outcome. (6)
7. How can you compute the cyclomatic complexity of a program? How is cyclomatic complexity useful in program testing? (6)
8. How does the three tier architecture overcome the problems of the two tier architecture. (6)
9. What is meant by a code walkthrough? What are some of the important types of errors checked during code walkthrough? Give one example of each of these types of errors. (6)

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