Code No: 155GC **R18**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year I Semester Examinations, March - 2024
SOFTWARE REQUIREMENTS AND ESTIMATION
(Computer Engineering – Software Engineering)

Time: 3 Hours **Max. Marks: 75**

Note: i) Question paper consists of Part A, Part B.
ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

1.a)	What is the importance of review in requirements engineering?	[2]
b)	How can requirements processes be improved?	[3]
c)	Define the term "object analysis".	[2]
d)	Draw a class diagram for bus ticket reservation system.	[3]
e)	What does LOC Estimation stand for?	[2]
f)	How do risk factors affect software estimation?	[3]
g)	What is productivity?	[2]
h)	Why is continuous refinement of estimates necessary throughout a project's lifecycle?	[3]
i)	What is USC's COCOMO II?	[2]
j)	List the benefits of using a requirements management tool.	[3]

PART – B

(50 Marks)

2.a) Discuss the significance of essential software requirements and their impact on project success.
b) Compare and contrast different elicitation techniques. [5+5]

OR

3.a) Write an overview of requirements analysis documentation and its role in project development.
b) Describe strategies for setting and managing requirements priorities in a software development project. [5+5]

4.a) Contrast the use of Requirements Traceability Matrix (RTM) in large-scale versus small-scale software projects.
b) Evaluate the role of object analysis in understanding and documenting software requirements. [5+5]

OR

5.a) Outline the steps involved in creating a use case model and its relevance in requirements modeling.
b) Describe the principles and practices involved in software requirements management. [5+5]

6.a) Illustrate the problems commonly encountered during software estimation and suggest strategies to mitigate these issues.
b) Explain the components of software estimations in detail. [5+5]

OR

7.a) Demonstrate the steps involved in conducting Function Point Analysis (FPA).
b) Compare the estimated size of a software project using Function Point Analysis and LOC estimation methods. [5+5]

8. Contrast the COCOMO II and Putnam Estimation Model in terms of their underlying principles and application areas. [10]

OR

9.a) Summarize the different approaches to effort and schedule estimation.
b) Describe the underlying principles of algorithmic models in project estimation. [5+5]

10.a) Compare the methodologies employed by Rational Requisite Pro and Caliber-RM in managing requirements.
b) Discuss the significance of SLIM (Software Life Cycle Management) tools in software development projects. [6+4]

OR

11.a) Analyze the desirable features in software estimation tools and explain how they contribute to accurate project planning and resource allocation.
b) Examine the challenges associated with software estimation. [6+4]

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