(Please write your Exam Roll No.) *Exam Roll No. .....*

END TERM EXAMINATION

FIFTH SEMESTER [B.TECH] FEBRUARY 2023

Paper Code: ETCS303 ***Subject: Software Engineering***

Time: 3 Hours ***Maximum Marks: 75***

Note: Attempt five questions including Q.No.1 which is compulsory. Assume missing data. Select one question from each unit.

Q1 Attempt all questions: **(2.5x10=25)**

a) Distinguish between failure and faults.
b) Compare functional & behavioral analysis models.
c) Write characteristics of software as a product.
d) Write short note on Spiral Model with its merits & demerits.
e) What are the different activities during software project planning?
f) Define Data flow diagram & Data Dictionary.
g) What are responsibilities and challenges of software engineers?
h) Identify in which phase of the software life cycle the following documents are delivered.
   i) Architectural design
   ii) Test plan
   iii) Cost estimate
   iv) Source code document
i) Differentiate between object oriented design and function oriented design.
j) List the principles of a software design.

UNIT-I

Q2 a) Which is more important-the product or process? Justify your answer **(6.5)**

b) Discuss Information flow Metrics. **(6)**

Q3 a) Explain Water fall Model. What are the problems that are sometimes encountered when the waterfall model is applied? **(6)**

b) Discuss the classification of Software Metrics. **(6.5)**

UNIT-II

Q4 a) Create ER diagram & DFD for Library Management Systems. Make assumptions & clearly state them. **(6.5)**

b) What are the risk management activities? Give top five risks in case of software development. **(6)**

P.T.O.

Q5 a) Draw an ER and DFD diagram for university information System. **(6.5)**

b) Differentiate functional and non functional requirements and explain. **(6)**

UNIT-III

Q6 a) Discuss the concept of cohesion and coupling. State the difference. **(6.5)**

b) How do you define Reliability? Discuss various models for reliability allocation. **(6)**

Q7 a) Discuss Object Oriented Design in detail. **(6.5)**

b) Explain in detail about the characteristics and criteria for a good design. **(6)**

UNIT-IV

Q8 a) What is software maintainability? How do you measure maintainability? **(6.5)**

b) Explain Reverse Engineering and Re-engineering. **(6)**

Q9 a) What is the necessity of unit testing? Write down all unit test considerations. **(6.5)**

b) Write a note of (i) Black box testing (ii) Integration testing (iii) Decision table testing **(6)**

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