AUTUMN MID SEMESTER EXAMINATION-2024

School of Computer Engineering
Kalinga Institute of Industrial Technology, Deemed to be University
Software Engineering
[CS 31001]

Time: 1 1/2 Hours   **Full Mark: 20**

Answer Any four questions including question No.1 which is compulsory.
The figures in the margin indicate full marks. Candidates are required to give their answers in their
own words as far as practicable and all parts of a question should be answered at one place only.

Q1. Answer all the questions: **(1 X 5)**

A) Differentiate between Exploratory Style and modern Style of Software Development.

B) What is the significance of abstraction in OOP with respect to designing an object-oriented system?

C) Highlight characteristics of Agile Software Development Process to which you can attribute its better success of developing software in lesser time (despite modest availability of resources) in comparison to traditional SDLC Model(s).

D) What is meant by phase containment of errors in Software Engineering?

E) What are meant by the terms Risk and Risk Mitigation in Software Development?

Long Questions (Attempt any 3 out of 4 questions provided below):

Q2.
a) What are the major changes introduced in Iterative Waterfall Model that were not present in Classical Waterfall Model and how do these changes benefit the overall SDLC process?
b) What are the major features of Spiral Model, and generally what kind of software development this Model can facilitate?

                                                                  (3 + 2)

Q3.
a) What does the term Software Crisis indicate? Detail about Software Crisis situations prevalent in Software Industry.
(b)Mention in detail how Software Crisis affects the software industry and what are the impacts of this crisis situation.
(c) As per your Idea, what should be resolution approaches for this situation?

                                                                  (2 + 2 + 1)

Q4.
Explain how does Structured Analysis and Design differ from Object-Oriented Design? Which among these 2 different approaches for software development is gaining more momentum in recent time and why?

(3+2)

Q5.
Answer either part A or part B of the following question:

A. Consider a software called Automobile Spare Parts Shop Automation Software (AAS) which is required by a retail automobile spare parts shop. The retail shop deals with a large variety of automobile spare parts procured from various manufacturers. The shop owner maintains different parts in wall mounted and numbered racks. Whenever new supplies arrive, the shop owner should be able to update the inventory.
Whenever any sales occurs, the shop owner would enter the code number of the parts and the corresponding quantities sold. AAS should print out the cash receipt, and adjust the inventory.
The computer should also generate report of the revenue for any specified day and month, when queried by the owner.
- ·Draw the use-case diagram for the above software.
- ·Draw the sequence diagrams for any three use cases.
- ·Draw the class diagram.   (2 + 1.5 + 1.5)

OR

B. Consider a software project scenario that has the following activities and their duration in weeks.

Activity	Duration	Immediate Predecessor (s)
A	4	-
B	5	-
C	3	B
D	12	A
E	6	C
F	9	B
G	4	E,F

(i) Draw the activity network diagram.
(ii) Identify the critical path and slack time for all paths.
(iii) Find the critical path   (2 + 1.5 + 1.5)