

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2023****Subject Code:3171609****Date:14-12-2023****Subject Name: Software Project Management****Time: 10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) How software project is different from other types of project? **03**
 (b) Identify the stakeholders of a project and their objectives. **04**
 (c) Describe an outline stepwise software project planning activities with neat diagram. **07**
- Q.2** (a) Discuss the importance of software quality in project management. **03**
 (b) What project closure? What are the reasons for premature closure of the projects? **04**
 (c) Explain Extreme Programming approach for software development. **07**
- OR**
- (c) Explain Incremental delivery model for software development with its advantages and disadvantages. **07**
- Q.3** (a) Explain how we make build or buy decision for software development. **03**
 (b) Describe various development effort modifiers used in COCOMO II model. **04**
 (c) Discuss the software effort estimation techniques based on function points. Given the following values, compute function point when complexity adjustment factor (CAF) is 55 and five project characteristics are as follows:
 User Input = 50(simple), User Output = 40(average), User Inquiries = 35(average), User Files = 10(average), External Interface = 5(complex). **07**
- OR**
- Q.3** (a) What is Earned Value Analysis? **03**
 (b) Discuss the problems with over and under estimates of the software project. **04**
 (c) Consider a project to develop have following major modules: **07**
 Database part (Semi-detached): 10 KLOC, GUI (Organic): 15 KLOC, Communication part (Embedded): 5 KLOC. Use appropriate version of COCOMO to determine the overall effort cost of the project and duration of development of the project. Compute the cost of the project if the average salary of the employee is Rs. 10,000/- per month.
- Q.4** (a) Describe various risk categories. **03**
 (b) Demonstrate the use of Gantt Charts in project scheduling with an example. **04**
 (c) What is PERT? Describe how PERT is used to evaluate schedule risk using suitable example. **07**
- OR**
- Q.4** (a) Explain Work Breakdown Structure with suitable example. **03**
 (b) Discuss risk assessment in detail. **04**

- (c) Draw precedence network and perform critical path analysis for following project development activities. **07**

Activity	Duration (weeks)	Precedents
A. Hardware Selection	6	
B. System Configuration	4	
C. Install hardware	3	A
D. Data migration	4	B
E. Draft office procedure	3	B
F. Recruit staff	10	
G. User training	3	E,F
H. Install and test system	2	C,D

- Q.5** (a) Describe various software quality assurance activities. **03**
(b) Compare software redevelopment and reengineering. **04**
(c) Explain Software Configuration Management (SCM) process with suitable diagram. **07**

OR

- Q.5** (a) Describe Software Configuration Items. **03**
(b) Discuss the importance of software maintenance. **04**
(c) Explain SEI CMM model. Compare it with ISO 9001. **07**