

JK Lakshmipat University, Jaipur
INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination, May 2022

BTech CSE, Semester IV

Subject: **Software Engineering (CS1113)**

Roll No.....

Time: 3 hours

Max. Marks: 40

Instructions to students:

1. Do not write anything other than your roll number on the question paper.
2. Assume suitable data wherever required and mention it clearly.

Q. 1	Perform the Requirement Engineering Process, Analysis and Design for the following Problem Statement and draw the: • Context Diagram • Data Flow Diagram • ER-Diagram • Use Case Diagrams • Activity Diagrams • Class Diagrams. Problem Statement: Background: Teachers, students are encouraged to take up research and innovate. In order to take up research work and subsequently make publications of research findings, to collaborate and network with others who are working on similar problems there is a need to participate in national and global Hackathons, workshops, seminars, conferences, etc. Problem: Students have to search for information about dates, places and themes of such academic confluences. Lot of time and efforts are wasted in this regard and despite that they may miss out vital information and chance to make presentations. Objective: You need to develop a portal where information about all academic activities across the country, universities and international arena in chronological order and in subject areas so as to enable the students, faculty, and researchers to access information and prepare well in advance and participate effectively and successfully.	25 CO 1-7
Q. 2	Consider a software program that is artificially seeded with 100 faults. While testing this program, 189 faults are detected, out of which 85 faults are from those artificially seeded faults. Assuming that both real and seeded faults are of same nature and have same distribution, Calculate the estimated number of undetected real faults.	05 CO8
Q. 3	A software project was estimated at 352 Function Points (FP). A four-person team will be assigned to this project consisting of an architect, two programmers, and a tester. The salary of the architect is Rs.80,000 per month, the programmer Rs.60,000 per month and the tester Rs.50,000 per month. The average productivity for the team is 8 FP per person month. Which of the following represents the projected cost of the project?	05 CO9
Q. 4	Assume that the software team defines a project risk with 80% probability of occurrence of risk in the following manner: Only 70 percent of the software components scheduled for reuse will be integrated into the application and the remaining functionality will have to be custom developed: If 60 reusable components were planned with average component size as 100 LOC and software engineering cost for each LOC as \$ 14, then what will be the risk exposure?	05 CO1 0

All the best!