JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-3 EXAMINATION- 2025

B. Tech-IV Semester (IT)

COURSE CODE (CREDITS): 19B11CI411 (3) MAX. MARKS: 35

COURSE NAME: SOFTWARE ENGINEERING PRACTICES

COURSE INSTRUCTORS: MR. PRATEEK MAX. TIME: 2 Hours

Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make suitable numeric assumptions wherever required

for solving problems. Calculator is allowed.

Q.No	Question	CO	Marks
Q1	(a) What do you mean by software testing? (b) Differentiate between the terms "test case" and "test suite" taking any suitable example. (c) Consider a simple program to classify a triangle. Its inputs is a triple of positive integers (say p, q, r) and the date type for input parameters ensures that these will be integers greater than 0 and less than or equal to 100. The program output may be one of the following words: [Scalene; Isosceles; Equilateral; Not a triangle] Design the boundary value test cases.	CO-6	2+2+3
Q2	Consider a situation where a very large project is to made that involves too much of risk. Identify which life cycle model will be best suitable for developing such kind of project. Justify your answer by explaining that model in detail with appropriate diagram, advantages and disadvantages.	CO-2	6
Q3	(a) Is it possible to estimate software size before coding? Justify your answer giving suitable example. (b) What can be the minimum and maximum value of complexity adjustment factors (CAF) while calculating the functional point (FP) for any software? (c) A database system is to be developed. The effort has been estimated to be 100 Person-Months. Calculate the number of LOC & productivity in LOC/PM for organic mode.	CO-7	2+2+3

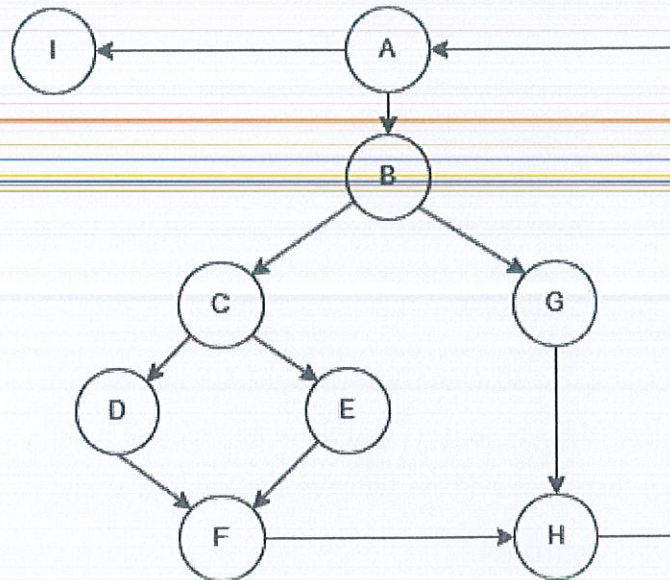| Q4	(a) Discuss the importance of cyclomatic complexity in the context of software testing.	CO-7	2+2+3
	(b) Write down any four properties of cyclomatic complexity.		
	(c) Consider a control flow graph given below in fig 1 and calculate the cyclomatic complexity by all three methods.		

Fig 1. Control Flow Graph

Q5	Write short notes on the following:	CO-8	4*2=8
	(a) Reverse Engineering		
	(b) Types of Maintenance		
	(c) Black Box Testing		
	(d) Unit vs. System Testing		