Darshan Institute of Computer Application

BCA / B.Sc. (IT) | Sem-4 | Summer-2023

Course Code	: 2104CS402	**Date**	: 10-04-2023
Course Name	: Software Engineering	**Duration**	: 150 Minutes
		Total Marks	: 70

Instructions:
1. Attempt all the questions.
2. Figures to the right indicates maximum marks.
3. Make suitable assumptions wherever necessary.

Q.1	**(A)**	Define Software. List various software application domain.	**4**
	(B)	Define software engineering, recite software engineering layered approach.	**3**
		OR	
		Write Software Myths in brief.	
	(C)	Explain Spiral Model, with its advantages, disadvantages and application.	**7**
		OR	
		Explain Prototyping Model, with its advantages, disadvantages and application.	
Q.2	**(A)**	Design Data Flow Diagram for Library management system.	**4**
	(B)	Express the desirable characteristics of good SRS document.	**3**
		OR	
		Describe cardinality and modality in brief.	
	(C)	Classify and explain cohesion and coupling in detail.	**7**
		OR	
		List various architectural pattern and explain each in brief.	
Q.3	**(A)**	Consider a project having 30,000 lines of code 1. Consider a semi-detached mode software 2. Consider an embedded software with critical area hence reliability is high (i.e. 1.15). Find the estimated Cost and schedule for different phases.	**4**
	(B)	Prepare list of the major responsibilities of a software project manager?	**3**
		OR	
		Explain software measurement techniques. How to calculate FP-Function Point Metrics.	
	(C)	Explain COCOMO Model in detail with example.	**7**

Explain RMMM (Risk Mitigation Monitoring and Management) plan.

Q.4 **(A)** Consider the given code-   **4**
begin int x, y, power;
float z;
input(x, y);
if(y<0)
        power = -y;
else
        power = y;

z=1;
while(power!=0)
{
        z=z*x;
        power=power-1;
}
 if(y<0)
        z=1/z;
output(z);
end
(i) Draw the flow graph.
(ii) Determine the cyclomatic complexity.

(B) What is Test Case? Give example of test case.   **3**

OR

What is Boundary Value Analysis (BVA)? Explain merits and demerits of BVA.

(C) Demonstrate Whitebox testing and also write its strategies with example.   **7**

OR

Determine Software Testing Strategy. Explain each testing strategy in detail.

Q.5 **(A)** Write short note on: Re-Engineering.   **4**

(B) Differentiate Software Engineering and Reverse Engineering.   **3**

OR

Examine Version and Change Control Management.

(C) What is Software Maintenance? Recite types of Software Maintenance.   **7**

OR

Write a short note on Software Configuration Management (SCM) Process and identify How version and change are controlled within and across organizations?

***