GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, ODISHA, GUNUPUR
(GIET UNIVERSITY)

B.C.A (Fourth Semester) Regular Examinations, April – 2025
BCA23404 - Software Engineering
(BCA)

Time: 3hrs   Maximum: 60 Marks

(The figures in the right hand margin indicate marks)

PART – A   (2 x 5 = 10 Marks)

Q.1. Answer *ALL* questions

		CO #	Blooms Level
a.	What is meant by Software and Software Engineering?	CO1	K1
b.	Discuss the significance of risk management in Software Engineering.	CO2	K1
c.	What are the non-functional requirements of software?	CO3	K1
d.	What are the elements of design model?	CO4	K1
e.	Why testing is important with respect to software?	CO5	K1

PART – B   (10 x 5=50 Marks)

Answer *ALL* questions

		Marks	CO #	Blooms Level
2. a.	What are the necessities of Life cycle model? Elaborate on the various issues of Software life cycle.	5	CO1	K1
b.	Briefly explain about advantages of prototype model with a neat diagram.	5	CO1	K1
	(OR)			
c.	Discuss how RAD model and spiral model helps in solving a design issue.	5	CO1	K2
d.	Discuss different agile methods based on their core principles and practices.	5	CO1	K2
3.a.	State the advantages of Function Point over Lines of Code (LOC). List all the value adjustment factors.	5	CO2	K2
b.	Explain the various steps of cost estimation procedure in COCOMO.	5	CO2	K3
	(OR)			
c.	Specify the different types of coupling that could exist between two software modules. Give example of each case?	5	CO2	K2
d.	Briefly explain about different categories of risks in risk management.	5	CO2	K2
4.a.	Describe how to prepare a software requirement specification (SRS) document. List possible users and use of SRS for each user.	5	CO3	K3
b.	Interpret about the feasibility studies of requirements engineering process.	5	CO3	K2
	(OR)			
c.	Explain the process of requirements elicitation and analysis in requirements engineering.	5	CO3	K3
d.	Describe about requirements validation and management.	5	CO3	K3
5.a.	Describe briefly the design modelling principles that guide the respective framework activity	5	CO4	K3

b.	How Software architecture is useful in creating an architectural design.	5	CO4	K3

(OR)

c.	Draw a DFD diagram for university examination system.	5	CO4	K3
d.	What do you understand by a Use Case? How a Use case can be drawn in UML? What does a Use Case diagram depict? An ATM is used to WITHDRAW cash, change PIN, check BALANCE and generate MINI statement. Customers use the ATM for the above functions. The maintenance people do the cash/repair of the ATM. Draw a use case diagram for the above scenario.	5	CO4	K4
6.a.	Distinguish between black box and white box testing by taking an example software application of your choice.	5	CO5	K3
b.	What do you mean by unit testing? Explain in detail about the process of unit testing.	5	CO5	K3

(OR)

c.	Interpret the art of debugging in software testing methodology	5	CO5	K3
d.	What do you mean by software testing? Explain about integration testing.	5	CO5	K3

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