

# END TERM EXAMINATION

FOURTH SEMESTER [BCA] JULY 2023

Paper Code: BCA-204

Subject: Software Engineering

Time: 3 Hours

Maximum Marks: 75

Note: Attempt five questions in all including Q.No. 1 which is compulsory. Select one question from each unit.

Q1 Answer the following questions briefly: (5x5=25)

- ☒ a) What are the characteristics of software?
- ☒ b) What is software re-engineering?
- ☒ c) Write short notes on DFD and ER diagrams.
- ☒ d) What is software review and software inspection?
- ☒ e) What is the difference between validation and verification?

## UNIT-I

- Q2 a) What do you mean by requirements elicitation? Discuss in brief different requirements elicitation techniques. (6)
- b) Explain Agile Model with its advantages and disadvantages? (6.5)

## OR

- Q3 a) Draw and label well described Use Case Diagram and level 1 DFD for hotel management system. Make assumptions as required. (6)
- b) What is SRS? Describe the nature and characteristics of SRS. Why is it important? (6.5)

## UNIT-II

- Q4 a) Explain Halstead Software Science metrics? (6)
- b) Compute the function point value for a project with the following domain (6.5)

Number of user inputs	=	32
Number of user outputs	=	60
Number of user inquiries	=	24
Number of files	=	08
Number of external interfaces	=	2

Assume that all complexity adjustment values are average. Assume that 14 algorithms have been counted.

## OR

- Q5 a) For a program with the number of unique operator's  $n_1=40$  and number of unique operands  $n_2=60$ ,  $N_1=16$  and  $N_2=21$  compare the followings: (6)
- i) Program Volume
  - ii) Potential Volume
  - iii) Program Level
  - iv) Program Difficulty
  - v) Effort
  - vi) Time

- b) Explain different models of COCOMO Model. (6.5)

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**UNIT-III**

- ~~Q6~~ a) Explain different types of coupling. (6)  
b) Explain software quality assurance and its activities. (6.5)
- OR**
- Q7 a) Explain different types of Cohesion. (6)  
b) What do you understand by Configuration Management? (6.5)

**UNIT-IV**

- ~~Q8~~ a) What is software maintenance? Describe different categories of software maintenance. (6)  
b) Explain Functional Testing with example. (6.5)
- OR**
- Q9 a) Explain maintenance tools and its techniques (6)  
b) Explain Structural Testing using example. (6.5)

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