

5TH SEM./AI & ML./CS & E/ IT/ 2024(W)

TH3 Software Engineering

Full Marks: 80

Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
 - a. Differentiate program and software.
 - b. Write down any 2 advantages of prototype model.
 - c. Define critical path.
 - d. Define fan-in and fan-out.
 - e. Define program slicing.
 - f. Define risk. Mention 3 types of risks that can affect a software project.
 - g. Define staffing.
 - h. Define verification and validation.
 - i. Define code walkthrough.
 - j. Define software quality and mention 2 quality factors.
2. Answer **Any Six** Questions 5 X 6
 - a. Briefly explain classical waterfall model.
 - b. Define PERT. Explain why PERT charts are used.
 - c. Define coupling. Discuss different types of coupling briefly.
 - d. Explain integration testing.
 - e. Compare various characteristics of a GUI and text based user interface.
 - f. Explain different matrices used for project size estimation.
 - g. Define debugging. Explain standard approaches and guidelines used in debugging process.

Answer **Any Three** Questions
3. Discuss the spiral model of software development. Explain why spiral model is known as meta model. 10
4. Define SRS. Explain contents of SRS and characteristics of a good SRS document. 10
5. Define DFD. Explain different symbols used in DFD. Discuss the steps for developing DFD model of a system with example. 10
6. Explain black-box testing and white box testing approach. 10
7. Write short notes on 5+5
 - i. COCOMO
 - ii. Software reliability