

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

Third Semester B.E. Degree Examination, Jan./Feb. 2021 Software Engineering

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What are the attributes of good software? Explain the key challenges faced in software engineering. (08 Marks)
- b. With a neat diagram, explain the waterfall model of software development process. (06 Marks)
- c. Describe the general model of software design process. (06 Marks)

OR

- 2 a. Define and differentiate functional and non-functional requirements. (06 Marks)
- b. What is requirements specification? Explain various ways of writing system requirements. (08 Marks)
- c. What is ethnography? How ethnography is effective in discovering the types of requirements? (06 Marks)

Module-2

- 3 a. What is OO development? Explain object oriented themes briefly. (08 Marks)
- b. What are links and associations? Write and explain UML notation for links and association with an example. (06 Marks)
- c. Describe generalization and inheritance with an example. (06 Marks)

OR

- 4 a. What is object orientation? What are the important characteristics of OO approach? Explain. (08 Marks)
- b. Define model. Describe the relationship among three models. (08 Marks)
- c. With the help of a sample class model explain multiplicity and Association and names. (04 Marks)

Module-3

- 5 a. Draw and explain a contest model for patient information system. (06 Marks)
- b. With a diagram, explain the phases in the Rational Unified Process (RUP). (06 Marks)
- c. With the help of a neat state diagram, illustrate the working of a microwave oven. (08 Marks)

OR

- 6 a. What is model driven engineering? State the three types of abstract system model produced with a neat diagram. (08 Marks)
- b. What are the activities to be carried out in object oriented design process of a system? How the objects are identified? (08 Marks)
- c. What is open source development? Explain general models of open source licensing. (04 Marks)



Module-4

- 7 a. What is list driven development? With a neat diagram, explain test driven development process. **(08 Marks)**
- b. With neat diagram, explain six stages of acceptance testing process. **(08 Marks)**
- c. What are the different types of interfaces to be tested during component testing? Explain. **(04 Marks)**

OR

- 8 a. Write and explain Lehman's laws related to system change. **(08 Marks)**
- b. What is software maintenance? Draw the general model of reengineering process and explain. **(08 Marks)**
- c. What are the strategic options involved in legacy system management? Discuss. **(04 Marks)**

Module-5

- 9 a. For the set of tasks shown below draw the activity bar chart for the project scheduling.

| Task | Duration (Days) | Dependencies |
|-----------------|-----------------|--|
| T ₁ | 10 | - |
| T ₂ | 15 | |
| T ₃ | 15 | T ₁ (M1) |
| T ₄ | 10 | - |
| T ₅ | 10 | T ₂ , T ₄ (M3) |
| T ₆ | 5 | T ₁ , T ₂ (M4) |
| T ₇ | 20 | T ₁ (M1) |
| T ₈ | 25 | T ₄ (M2) |
| T ₉ | 15 | T ₃ , T ₆ (M5) |
| T ₁₀ | 15 | T ₇ , T ₈ (M6) |
| T ₁₁ | 10 | T ₉ (M7) |
| T ₁₂ | 10 | T ₁₀ , T ₁₁ (M8) |

- b. Write and explain the factors affecting software pricing. **(05 Marks)**
- c. Explain briefly the algorithm cost modeling and write the difficulties. **(07 Marks)**

OR

- 10 a. With a diagram, explain the phase involved in software review process. **(08 Marks)**
- b. Explain briefly the key stages in the process of product measurement. **(08 Marks)**
- c. Write any four product and process standards. **(04 Marks)**

* * * * *