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M. B. A. (Third Semester) Examination, Nov.-Dec. 2020

(New Scheme)

(Management Branch)

SOFTWARE ENGINEERING & PROJECT MANAGEMENT

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 32

***Note** : Attempt any **two** questions from each question. Each question carries 8 marks.*

Unit-I

1. Do a comparative study of five software development life cycle models considering the following facts : size of the project experience of project team, flexibility of budget, time of project, flexibility of the model itself. Why we should follow a proper development model for any software project. 5+3

2. Briefly describe the structure of Software Requirement Specification as per the IEEE standard. Write down the importance of the Software Requirement Specification. 6+2

3. What do you mean by Decision Table? Go through the case given below and construct a decision table for the same. 2+6

Example : Consider the recruitment policy of XYZ Software Ltd.

If the applicant is a BE then recruit otherwise not. If the person is from computer science, put him/her in the software development department and if the person is from non-computer science background put him/her in HR department. If the person is from computer science and having experience equal to or greater than three years, take him/her as team leader and if the experience is less than that then take the person as team member. If the person recruited is from non computer science brackground, having experience less than three years, make him/her management trainee otherwise manager.

Unit-II

4. What do you mean by Software Metrics? What are the different types of metrics we use for software projects? Differentiate public and private metrics. 2+2+4

5. Assume that the size of an organic type software product has been estimated to be 32,000 lines of source code. Assume that the average salary of software developers is 15,000 per month. Determine the effort required to develop the software product, the nominal development

time, and the cost to develop the product. The following values are supplied :

Organic : Effort : $2{\cdot}4\ (KLOC)^{1{\cdot}05}$ PM

Organic : Tdev = $2{\cdot}5\ (Effort)^{0{\cdot}38}$ Months

[Use the formula for basic COCOMO to solve the problem.]

Briefly describe the importance of the process given above. 5+3

6. Write short notes on : (any **two**) 2×4=8

(a) Rayleigh curve

(b) Critical path method for project scheduling

(c) Software quality assurance plan

Unit-III

7. What do you mean by coupling and cohesion? "A software engineer must design the modules with the goal of high cohesion and low coupling." Justify the fact. 4+4

8. Write short notes on : (any **two**) 4+4

(a) Problem Partitioning

(b) Structured charts

(c) CASE

9. Briefly describe the software configuration management process. 8

Unit-IV

10. Define software quality. How we can maintain the quality of any software during development life cycle. 2+6

11. Compare validation and verification. What do you mean by software testing? Describe different types of software testing with example. 4+2+2

12. Compare error, fault and failure. How a debug process can be performed? 4+4

Unit-V

13. What do you mean by Capability Maturity model? Briefly describe all the stages of the capability maturity model considering any company. 2+6

14. Briefly describe the configuration management process. What do you mean by walkthrough? 6+2

15. Write short notes on : (any **two**) 4+4
    (a) Reverse engineering
    (b) Configuration management database
    (c) Version control process