

TIT-505

1206

Odd Semester Examination 2018-19

B.Tech. (IT)(SEMESTER-V)

SOFTWARE PROJECT MANAGEMENT

Time: 03:00 Hours

Max Marks :100

Note: Attempt all the questions.

1. Attempt any four questions :

[4x5=20]

- (a) Define Software Project Management System. What is it from the user's point of view?
- (b) Explain COCOMO model. Also describe a software application area in which software safety and hazard analysis would be a major concern.
- (c) What is the importance of Monte Carlo simulation technique in risk management?
- (d) Differentiate between "known risks" and "predictable risks".
- (e) Why do we require metrics for measuring software qualities?

2. Attempt any four questions :

[4x5=20]

- (a) Quality and reliability are related concepts but are fundamentally different in a number of ways. Discuss the differences.
- (b) What are the principles of modern software management? Explain. What are the three levels of process and their attributes?
- (c) "Only about 15% of software development effort is devoted to programming". Discuss.

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(1)

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- (d) What is the difference between an SCM audit and a technical review? Can their function be folded into one review? What are the pros and cons?
- (e) What are the main standards of ISO 9000 series? Where do you make use of these Standards in software development?

3. Attempt **any two** questions : [2x10=20]

- (a) Use the COCOMO II model to estimate the effort required to build software for a simple ATM that produces 12 screens, 10 reports, and will require approximately 80 software components. Assume average complexity and average developer/environment maturity. Use the application composition model with object point.
- (b) State the difference between Lines of Code and Function Point Metrics.
- (c) What are the Six Sigma limits? Explain their importance in quality management.

4. Attempt **any two** questions : [2x10=20]

- (a) Discuss the techniques used by quality auditors for software. Explain the importance of each technique.
- (b) What are reviews and audits? Why is it necessary? How are reviews and audits planned and organized? Explain the procedures.
- (c) Define software quality assurance. What is the structure of SQA plan? What are the types of documents to be prepared during software development process?

5. Attempt **any two** questions : [2x10=20]

- (a) What are the types of documents to be prepared during software development process? Describe some practices that can be said to promote a quality culture within the organization.
- (b) How can software reliability growth models be classified?. How will you measure the software reliability? Suppose in the production of lightbulbs, 80% are good. In

a random sample of 10 lightbulbs, what is the probability of obtaining at least 8 good lightbulbs?

- (c) Can we use reliability models for quality management and tracking? A computer system has an exponential failure time density function $f(t) = \frac{1}{8000} e^{-t/8000}$ $t \geq 0$. What is the probability that the system will fail after the warranty (six months or 4380 hours) and before the end of the first year (one year or 8760 hours)?

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