

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 2868

Roll No.

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**B. Tech.**

(SEM. VIII) THEORY EXAMINATION 2011-12

**SOFTWARE PROJECT MANAGEMENT**

*Time : 3 Hours*

*Total Marks : 100*

**Note :—Attempt *all* questions.**

1. Attempt any *two* parts :— **(2×10=20)**
  - (a) Why the process of project planning is iterative and why a plan must be continually reviewed during a software project ? Describe with an example.
  - (b) (i) Explain why the intangibility of software system poses special problems for software project management.  
(ii) List the various responsibilities of a software project manager.
  - (c) Is software project estimation essential for all kinds of software projects ? Discuss various software project estimation techniques, together with their merits and demerits.
2. Answer any *two* parts :— **(2×10=20)**
  - (a) What is the purpose of Activity Network ? The following figure set out a number of activities, durations, and

dependencies. Draw an activity chart and bar chart showing the project schedule :—

Tasks	Activity duration (in days)	Dependencies
T1	10	—
T2	15	T1
T3	10	T1, T2
T4	20	—
T5	10	—
T6	15	T3, T4
T7	20	T3
T8	35	T7
T9	15	T6
T10	5	T5, T9
T11	10	T9
T12	20	T10
T13	35	T3, T4
T14	10	T8, T9
T15	20	T12, T14
T16	10	T15

- (b) (i) Discuss various steps for building a project schedule with an example.
- (ii) Write short note on product life cycle.
- (c) Write short notes on the following :—
- (i) Potential uses of Work Breakdown Structure (WBS)
- (ii) Software project team organization.

3. Answer any *two* parts :— (2×10=20)

- (a) Why project monitoring and control is needed for successful implementation of a software project ? Discuss various dimensions of project monitoring and control.
- (b) (i) What is the significance of Schedule Performance Index (SPI) ? Discuss with example.  
(ii) Write a short note on walkthroughs.
- (c) Describe the characteristics of a good software metrics. Also discuss various software metrics for project monitoring.

4. Answer any *two* parts :— (2×10=20)

- (a) Why is software testing required ? Explain. Discuss the difference between worst test case and adhoc test case performance evaluation by means of testing. How can we be sure that the real worst case has actually been observed ? Explain.
- (b) (i) Differentiate between integration testing and system testing with some example.  
(ii) Consider a program to determine whether a number is “odd” or “even” and print the message : NUMBER IS EVEN or NUMBER IS ODD. The number may be any valid integer. Design boundary value and equivalence class test cases.
- (c) Discuss the SEI Capability Maturity Model (CMM) in detail.

5. Answer any *two* parts :— (2×10=20)

- (a) What do you mean by software configuration ? Explain.  
Why an attribute based version identification system makes it easier to discover all the components making up a specific version of a system ? Discuss.
- (b) (i) What are risk management activities ? Is it possible to prioritize the risks ? Discuss.  
(ii) Write a short note on change request management.
- (c) Write short notes on the following :—
  - (i) MS-Project
  - (ii) Cost-benefit analysis.