

QP Code : 26663

(3 Hours)

[Total Marks : 80]

- Please note: 1. Q.1 is compulsory.
2. Attempt any 4 out of remaining 6 questions.
3. Use of calculator is allowed.

- Q.1 a A new project with estimated size of 400 KLOC embedded system has to be developed. Project Manager has a choice of hiring from two pools of developers: One pool is with very highly capable (0.82) with very little experience in the programming language (1.14) and second pool is with developers with low quality (1.29) with a lot of experience with the programming language (0.95). Which pool the project manager should choose by applying COCOMO 1? (Assume $a = 2.8$ and $d = 1.20$ for embedded system) 10
- b Define degree of rigor. Explain how degree of rigor is calculated, based on TSS. 10
- Q.2 a Define structure chart. Also explain different types of structured charts with example. 8
- b Define staffing level estimation. Explain Rayleigh Curve. 7
- Q.3 a Write a short note on spiral model. Also explain how it is different from unified process model. 8
- b Define SRS. Explain different types of requirements. 7
- Q.4 a Consider a software project with 5 tasks T1- T5. Duration of the 5 tasks in weeks are 15, 10, 12, 25 and 10 respectively. T2 and T4 can start when T1 is complete. T3 can start when T2 is complete. A T5 can start when both T3 and T4 are complete. 8
- b Define feasibility analysis. Explain different steps of feasibility study. 7
- Q.5 a Define Formal technical review. Explain how FTR helps in software quality assurance. 8
- b Define work breakdown structure. Explain difference between activity network diagram and work breakdown structure. 7
- Q.6 a An application has the following: 10 low external inputs, 12 high external outputs, 20 low internal logical files, 15 high external interface files, 12 average external inquiries, and a value of complexity adjustment factor of 1.10. 8
- What are the unadjusted and adjusted function point counts ?
- b Explain purpose of system flowchart with example. 7
- Q.7 Write a short note on (any 3) 15
- a Incremental model
- b Reliability metrics
- c SEI CMM
- d Warnier Orr diagram