**kiitlogo Software Engineering/IT-3003/B.Tech/5th semester/2019**

**AUTUMN MID SEMESTER EXAMINATION-2019**

**School of Computer Engineering**

**KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY**

**DEEMED TO BE UNIVERSITY, BHUBANESWAR-24**

**Software Engineering [IT-3003]**

**Time: 1½ Hours Full Mark: 20**

***Answer any four questions including question No.1 which is compulsory.***

***The figures in the margin indicate full marks. Candidates are required to give their answers in their own words as far as practicable and all parts of a question should be answered at one place only.***

**Q.1. [5×1]**

1. Identify the factors that contribute to the software crisis.

(b) Define phase containment of errors. Why is it important in software development.

(c) Identify the different types of problems an analyst may come across during requirement analysis.

(d) How RAD model is different from the prototyping model?

(e) List out the responsibilities of a project manager in software project management.

**Q.2. [2.5x2]**

1. Write the major difference between the exploratory style programming and software engineering approach. (b) Explain the common issues which an analyst may face during the requirement analysis activity. Write the importance of SRS document.

**Q.3. [2.5x2]**

(a) Explain the spiral model with the help of a neat sketch. Write its advantages and disadvantages

(b) Explain different ceremonies that are performed in scrum methodology.

**Q.4. [2.5x2]**

(a) Define Function point metric. How is it better as compared to the LOC metric in determining the project size estimates.

(b) Assume that the size of an semidetached type of software product has been estimated to be 60,000lines of source code. Assume that the average salary of software engineers be Rs. 30,000/- per month. Determine the effort required to develop the software product, the nominal development time and productivity using COCOMO. (Constants: a1=3.0, a2=1.12, b1=2.5, b2=0.35)

**Q.5. [5]**

Consider a software project scenario that has 7 activities named as A,B,C,D,E,F, and G. The duration of the activities, in weeks, are 3,2,8,4,5,10, and 10 respectively. Tasks B and E can start only when A is completed. Tasks C and F can commence only after the completion of task B. Tasks D and G can be initiated only when task C gets over. Task F can get started only after tasks D and E are over. For the given problem:

I. Draw the activity network diagram

II. Identify the critical path and slack time for all the paths.

III. Determine the early start, early finish, late start and late finish for tasks B and D

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