SPRING MID SEMESTER EXAMINATION-2020

School of Computer Engineering

KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY
DEEMED TO BE UNIVERSITY, BHUBANESWAR-24

Introduction to Software Engineering [IT-3040]

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]**

(a) Write about the importance of software engineering practices in software development.

(b) What do mean by adaptive maintenance? Briefly explain with an example.

(c) Identify the advantage and disadvantage of spiral model.

(d) What is daily scrum meeting? How is it different from sprint review meeting?

(e) What are the limitations of Lines of Code metric in size estimation of a software project?

Q.2.

a) Write the characteristics of good software product. **[3]**

b) Write the shortcomings of classical waterfall model. How iterative model overcomes these limitations? **[2]**

Q.3.

a) Explain the Prototype model with the help of a neat sketch. Write its advantages and disadvantages . **[3]**

b) Explain the different roles, and artifacts present in scrum methodology. **[2]**

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

a) Explain the responsibilities of project manager in software project management.

b) Consider a project with the following functional units:

30 simple and 20 average complexity user inputs, 40 update operations with screen display,

20 simple and 15 complex inquiries, 6 User files, 3 simple and 1 complex interface.

Assuming all complexity adjustment factors as average. Calculate the function point metric for the project.

Q.5.

a) Write the disadvantages of expert judgement estimation technique. How the delphi estimation technique overcomes the disadvantages of expert judgement. **[2]**

b) Assume that the size of an embedded type of software product has been estimated to be 30,000 lines of source code. Determine the effort required to develop the software product, the nominal development time and productivity using basic COCOMO. (Constants: a1=3.6, a2=1.20, b1=2.5, b2=0.32) **[3]**

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