M.Sc. 2nd Semester Examination, 2016

SOFTWARE ENGINEERING

PAPER — COS-204

Full Marks : 40

Time : 2 hours

Answer any four questions

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

1. (a) What is software crisis ? What factors have contributed to the making of software crisis ? What are possible solutions to the software crisis ?   1 + 1 + 1

   (b) What is a prototype ? Draw the schematic

diagram of the prototyping model of software development ? Also discuss its phases in brief ?   1 + 2 + 4

2. (a) What do you mean by software configuration management ? Also discuss in brief the various software configuration management activities.   2 + 4

(b) Compare the basic COCOMO with the intermediate COCOMO model.   4

3. (a) What do you mean by the term requirement ? Explain the different activities carried out in requirement analysis and specification phase of SDLC.   2 + 4

(b) What is SRS ? Discuss the characteristics of a good SRS documents.   1 + 3

4. (a) What do you mean by the terms cohesion and coupling ? How are these concepts useful in arriving at a good design of a system ?   4 + 3

(b) Consider a program which registers students for different programs. The students fill a

form and submit it. This is sent to the departments for confirmation. Once it is confirmed, the form and the fees is sent to the account section, and the account section generate a slip as a proof of registration. Draw a DFD of the above mention system. 3

5. (a) What do you understand by the term "Software Testing" ? Explain the different levels of testing. 1 + 6

(b) Differentiate between Verification and Validation. 3

6. Write short notes on (any *two*) : 5 × 2

(*i*) Risk Management

(*ii*) Function Point Metrics

(*iii*)Maintenance

(*iv*)Black box testing.

[*Internal Assessment* : 10 Marks]

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