MCS-034

MCA (Revised)

Term-End Examination

03403

December, 2018

MCS-034 : SOFTWARE ENGINEERING

Time : 3 hours　　　　　　　*Maximum Marks : 100*

(Weightage : 75%)

Note : *Question no. 1 is **compulsory**. Attempt any **three** questions from the rest.*

1. (a) Suppose you are given the task to automate the activities of your study centre like scheduling of academic counselling, practical counselling, despatching communication to students regarding the schedules, assignment submission and viva-voce scheduling, etc. Also apart from these, you can make your own assumptions wherever necessary. To accomplish these tasks perform the following :

   (i) Develop SRS document.　　　　*5*

   (ii) Draw DFDs till level-2.　　　　*5*

(iii) Identify all the modules and describe their functionalities. 5

(iv) Design an ER diagram. Follow proper conventions. 5

(b) Explain any five attributes of software quality. Also describe any two software quality standards. 10

(c) With the help of an example application, explain the process of Wireless Application Development using J2ME. 10

2. (a) What are CASE tools ? Explain the role of various CASE tools in Requirements Engineering. 10

(b) With the help of a suitable example, explain the Iterative Enhancement Model. Draw necessary diagram(s). 10

3. (a) With reference to cleanroom based software development, explain the following principles :

(i) Incremental development under statistical quality control 4

(ii) Software development based on mathematical principles 3

(iii) Software testing based on statistical principles 3

(b) Draw and explain the Risk Manager Tool. 10

4. (a) List and explain the contents of a software change request form. *10*

(b) Explain the following scheduling techniques with the help of a suitable example for each : *10*

(i) Work Breakdown Structure (WBS)

(ii) Flow-Graph

5. Write short notes on the following : *4×5=20*

(a) Software Reliability Model

(b) Putnam's Model

(c) Challenges for Component Based Software Engineering

(d) Configuration Management for Web Applications