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**MCS-034**

**MASTER OF COMPUTER  
APPLICATIONS (MCA) (Revised)**

**Term-End Examination**

**December, 2020**

**MCS-034 : SOFTWARE ENGINEERING**

*Time : 3 Hours*

*Maximum Marks : 100*

*Weightage : 75%*

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**Note :** (i) *Question No. 1 is compulsory.*

(ii) *Attempt any **three** questions from the rest.*

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1. (a) 1600 V works on a 3-tier system (Headquarters, Regional Centres and Study Centres). Study centre (tier) is involved mainly in the delivery of the programmes. Study centre has a study centre coordinator, programme incharges and staff (Academic Counsellors, Lab Assistants and other supporting staff). Various academic counsellors conduct

counselling for the students for various programmes as per the schedules announced by study centre. Students submit assignments and appear for practical classes (for computer programmes) here. Programme incharges get the assignments evaluated by the concerned academic counsellors and provide feedback. Apart from assignment evaluation, viva-voce is also to be conducted from each course on specific schedule dates announced by the study centre. To accomplish these tasks a “Study Centre Management System” is needed to a fulfil the requirements perform the following :

- (i) Develop SRS for this system. 5
- (ii) Draw O-level DFD, 1st level and 2nd level DFDs. 5
- (iii) Identify all the modules and corresponding functionalities. 5
- (iv) Design an entity relationship diagram.

- (b) Explain the COCOMO model with an example. 10
- (c) Explain, with an example, how boundary conditions are tested in black box testing. 10
2. (a) Define project scheduling. Discuss GANTT and PERT charts with the help of an example for each. 10
- (b) Define Cohesion and Coupling. Explain various types in each of them. 10
3. (a) Explain various levels of SEI-CMM model. 10
- (b) What is the purpose of Software Quality Assurance (SQA) ? Also, explain various processes of SQA. 10
4. (a) Discuss the following in the context of risk management : 10
- (i) Risk Control
- (ii) Risk Recovery
- (b) What are the steps involved in the process of connecting MIDlet to a Servlet ? Explain. 10

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

- (a) Reengineering
- (b) Component-based Development
- (c) CASE tools
- (d) Management of Web-based projects
- (e) Architecture of GSM