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**BCS-051**

**BACHELOR OF COMPUTER  
APPLICATIONS (BCA) (REVISED)**

**Term-End Examination**

**December, 2021**

**BCS-051 : INTRODUCTION TO SOFTWARE  
ENGINEERING**

*Time : 3 Hours*

*Maximum Marks : 100*

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**Note :** *Question No. 1 is compulsory and carries 40 marks. Attempt any **three** questions from the rest.*

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1. (a) Explain the need for SRS. Develop a SRS for online shopping system of a grocery store. Make necessary assumptions. Follow IEEE SRS format. 20

- (b) What is Waterfall Model ? Explain the advantages of using Waterfall model for software system development. 8
- (c) What is usecase diagram ? Draw and define the use of any **four** symbols used to draw usecase diagram. 6
- (d) What is Cohesion ? Briefly explain any **three** types of cohesion. 6
2. (a) Draw context diagram and first level DFD for “online shopping system of a grocery store”. 10
- (b) What is Testing ? Why is it needed ? Explain differences between white box testing and black box testing with the help of examples for both types of testing. 10

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3. (a) Draw Gantt chart for development of an “online shopping system”. 10
- (b) What is Software Configuration Management (SCM) ? Explain the need of SCM with the help of an example. 10
4. (a) What is Capability Maturity Model (CMM) ? Briefly explain the *five* levels of maturity in CMM. 12
- (b) What is an Object ? How is it different from class ? Explain use of static objects in problem solving with the help of an example. 8
5. (a) Write short notes on the following : 10
- (i) Data Dictionary
- (ii) Test cases for unit testing

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- (b) What are software metrics ? Briefly explain the following software metrics : 10
- (i) Object Oriented Metrics
- (ii) Software Quality Metrics

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