No. of Printed Pages : 4 **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*

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

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

P. T. O.

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

   (b) What are software metrics ? Briefly explain the following software metrics : 10

   (i) Object Oriented Metrics

   (ii) Software Quality Metrics

BCS–051