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BACHELOR OF COMPUTER APPLICATIONS (BCA) (Revised)
Term-End Examination
December, 2015

BCS-011 : COMPUTER BASICS AND PC SOFTWARE

Time : 3 hours   *Maximum Marks : 100*

(Weightage : 75%)

Note : *Question number* **1** *is* **compulsory** *and carries* *40 marks. Attempt any* **three** *questions from the rest.*

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1. (a) Draw a flow chart to input a natural number, such as 997, and determine whether or not it is a multiple of 3.   *6*

   (b) In a local area network of star topology, one component failed, bringing down the whole network. Predict which component has failed. Justify your answer.   *5*

   (c) Describe two similarities and two differences between a router and a gateway.   *4*

   (d) What is a Wiki ? How does it promote content creation by the community ?   *5*

(e) Explain the Von Neumann's architecture with the help of a diagram. *5*

(f) Describe *if* statement. Write an *if* statement to multiply even numbers by 3 and odd numbers by 4. *5*

(g) What is a trackball ? How does it work and where is it used ? *5*

(h) What is an operating system ? What are its functions and uses ? Name any one proprietary and one open source operating system. *5*

2. (a) Describe the layers of TCP/IP reference model. *8*

(b) What is a defragmentation utility and what does it do ? What are the benefits of defragmentation ? *6*

(c) What are the threats to security from the Internet ? What are the mechanisms available to safeguard oneself from them ? *6*

3. (a) What is the use of a compiler in a computer system ? How is it different from an interpreter ? *6*

(b) What are the components of the process for developing e-learning content on any subject ? Describe briefly the activities carried out in each, with the help of a diagram / example. *8*

(c) Why is a memory hierarchy used in a computer system ? Explain the memory hierarchy diagrammatically, giving the changing characteristics of the memory as we traverse the hierarchy. *6*

4. (a) What is meant by mailmerge ? Describe the concept by giving the steps involved in sending a letter to the students of a class giving their grades in different subjects. *8*

(b) Describe the features, mechanisms, advantages and limitations of each of the following data transmission media : *12*

(i) Twisted Pair Cable

(ii) Microwaves

(iii) Infrared

5. Explain any *five* of the following with the help of diagrams and examples as appropriate : *5×4=20*

(a) Unicode

(b) Arrays

(c) Simplex, Half Duplex and Full Duplex Communication

(d) Firewall

(e) Laser Printer

(f) Table of Contents in Microsoft Word