

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

Term-End Examination

09713

December, 2018

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.

1. (a) A hypothetical simple computer has the following opcodes in its instruction set, each of which takes two operands that are given in the next 2 bytes :

- 00 Add ($op1 + op2$)
- 01 Subtract ($op1 - op2$)
- 10 Multiply ($op1 \times op2$)
- 11 Divide ($op1 \div op2$)

Write, in binary, the instruction that will carry out the calculation 46×75 .

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- (b) Explain Internet Protocol addressing with the help of an example. 3
- (c) Draw a flowchart that takes “n” numbers as input and produces the smallest of those numbers as output. 5
- (d) Draw the graph for the following : 5
- (i) Analog signal
- (ii) Digital signal
- (e) List any three features of cloud computing and describe each of them briefly. 6
- (f) (i) What are the advantages and disadvantages of using CD as secondary storage ? 5
- (ii) A tape is 4000 feet long and has a recording density of 1200 bpi. What is its storage capacity ?
- (g) List five security measures one should take while browsing. 5
- (h) What is an open source software ? Give examples. What are the advantages and disadvantages of using open source software ? 5
2. (a) What is perverse software and what are its effects ? Describe briefly any three types of perverse software. 6

- (b) What is an unguided media channel ?
Explain the characteristics of the different
kinds of unguided media channels. 9
- (c) What is a sequential access memory device ?
Describe its features. 5
3. (a) Discuss the following in brief : 8
- (i) Repeater
 - (ii) Bridge
 - (iii) Hub
 - (iv) Switch
- (b) IGNOU needs to send a letter to each student of the BCS-011 course, informing them of the location of their examination centre. The major portion of the text is the same for each student, but the roll number, name of the student and examination centre location are different. These details are available in a data file for each student (one file with all the data). What are the steps you would follow to make a personalised letter in Microsoft Word for each student so that each one feels the letter has been drafted for him or her alone ? 8
- (c) Explain the four different types of computer monitors. 4

4. (a) What is e-mail ? Describe its advantages and the facilities it provides. Explain how one can create an e-mail account on the e-mail system of one's choice. 8
- (b) Describe the mainframe software architecture. Contrast it with the following, bringing out any underlying similarities : 8
- (i) Two-tiered architecture
 - (ii) Three-tiered architecture
 - (iii) n-tiered architecture
- (c) What is Unicode ? Where and how is it used ? 4
5. Explain any **five** of the following with the help of examples or diagrams wherever required : $5 \times 4 = 20$
- (a) Laptop computer
 - (b) Internet based software architecture
 - (c) Social networking
 - (d) Dot matrix printer
 - (e) Looping statements in programming languages
 - (f) Von Neumann architecture
 - (g) Routers
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