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Roll No. ....

BCA-III Sem.

**18014**

**B.C.A. Examination, Dec. 2016**

**BUSINESS ECONOMICS**

**(BCA-304)**

**(New Course)**

*Time : Three Hours]*

*[Maximum Marks : 75*

*Note: Attempt questions from all Sections as per instructions.*

**Section-A**

**(Very Short Answer Questions)**

Answer all the *five* questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words.  $3 \times 5 = 15$

1. Income elasticity of demand.
2. Economies of Scale.
3. Short -run cost analysis.
4. EXIM Policy.
5. Draw and explain the Production Possibility Curve.

( 2 )

**Section-B**

**(Short Answer Questions)**

Answer any *two* questions out of the following three questions. Each question carries  $7\frac{1}{2}$  marks. Short answer is required not exceeding 200 words.  $7\frac{1}{2} \times 2 = 15$

6. Explain the implications of the following features under perfect competition:
  - (a) Freedom of entry and exit of firms
  - (b) Large number of buyers and sellers.
7. Explain the concept of elasticity of demand with its application.
8. What are the central problems of distribution in an economy?

**Section-C**

**(Detailed Answer Questions)**

Answer any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail.  $15 \times 3 = 45$

9. Give the difference between the different forms of market.
10. Explain the output determination under the perfect competition.
11. What are the characteristics of Oligopoly market? Draw and explain the Kinked demand curve under oligopoly.
12. Explain monetary policy with its component.
13. Write an essay on "TRIPS".

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BCA - III Sem.

**18013**

**B. C. A. Examination, Dec. 2016**

**Computer Architecture and Assembly Language**

**(BCA-303)**

**(New Course)**

*Time : Three Hours*

*[Maximum Marks : 75*

**Note:** Attempt questions from all Sections as per instructions.

**Section-A**

**(Very Short Answer Questions)**

Answer all the *five* questions. Each question carries equal marks. Very short answer is required not exceeding 75 words.  $3 \times 5 = 15$

1. Give important characteristics of RISC architecture.

( 2 )

2. What is the advantage of using Booth algorithm?
3. Differentiate between micro-instruction and microprogram.
4. What is the difference between a direct and an indirect address instructions?
5. Convert the following into reverse polish notation :

$$A * B + C.$$

**Section-B**

**(Short Answer Questions)**

Answer any *two* questions out of the following three questions. Each question carries equal marks. Short answer is required not exceeding 200 words.  $7\frac{1}{2} \times 2 = 15$

6. Discuss Basic Computer Organization. How is it different from computer architecture?
7. What do you understand by pipeline processing? Explain an arithmetic pipeline that adds two normalized floating numbers.

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8. Write a program in assembly to ADD two numbers stored at memory location 2001H and 2002H. Result will be display at 2004H.

Or

What do you understand by Instruction Cycle? What are the different phases of instruction cycle?

### Section-C

#### (Detailed Answer Questions)

Answer any *three* questions out of the following five questions. Each question carries equal marks. Answer is required in detail.  $15 \times 3 = 45$

9. What do you understand by Parallel Processing? Discuss in detail how it helps in reducing the running time. Which kind of tasks can be parallelized?
10. What do you mean by Addressing Models? Explain the following addressing modes :
- (a) Immediate      (b) Implied.
  - (c) Direct          (d) Indirect.
  - (e) Relative        (f) Base Register.
  - (g) Indexed.

11. Describe Direct Memory Access (DMA). Explain its functioning of DMA transfer with the help of diagram.
12. Differentiate between :
- (a) General purpose and Special Purpose Register
  - (b) RISC and CISC instruction set
  - (c) Hardwired and micro-programmed control
  - (d) Vector processing and Array processing
  - (e) Interrupt and subroutine
13. What is Priority Interrupt? Explain Polling and Daisy Chaining Priority.

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B. C. A.- III Sem.

**18012**

**B. C. A. Examination, Dec. 2016**

**Data Structure Using C and C++**

**(BCA-302)**

**(New Course)**

*Time : Three Hours]*

*Maximum Marks : 75*

**Note :** Attempt questions from all Sections as per instructions.

**Section-A**

**(Very Short Answer Questions)**

Answer all the *five* questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words.  $3 \times 5 = 15$

1. How single dimensional arrays can be represented in computer memory?
2. What is priority queue?

3. Give the use of header node in linked list.
4. Differentiate between linear search and binary search technique.
5. Briefly explain complete binary tree with example.

**Section-B**

**(Short Answer Questions)**

Answer any *two* questions out of the following three questions. Each question carries  $7\frac{1}{2}$  marks. Short answer is required not exceeding 200 words.  $7\frac{1}{2} \times 2 = 15$

6. What is postfix expression form of any infix expression ? Write an algorithm to convert infix expression into postfix expression.
7. Write a program in C language to search a given element in linked list.
8. Explain the various types of hash functions with example.

Section-C

(Detailed Answer Questions)

Answer any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail. 15×3 =45

- 9. What do you mean by traversal of binary tree ? Give the recursive algorithm for various types of binary tree traversal with suitable examples.
- 10. Explain the following terms in relation to queue with queue :
  - (a) Insertion and deletion operations
  - (b) Applications
  - (c) Limitations and their remedies
- 11. What is binary search tree ? Write a program in C++ to create a binary search tree having 10 elements. Apply the given program on the following data :  
-5, 10, 100, 5, -6, 1, 0
- 12. Explain Merge Sort with a suitable example in detail.

- 13. Write notes on the following (any three) :
  - (a) Two-way list
  - (b) Selection sort
  - (c) Sparse array with example
  - (d) Linear search.

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**18015**

**B. C. A. Examination, Dec. 2016**

**Elements of Statistics**

**(BCA-305)**

**(New Course)**

*Time : Three Hours*

*[Maximum Marks : 75]*

**Note :** Attempt questions from all Sections as per instructions.

**Section-A**

**(Very Short Answer Questions)**

Answer all the *five* questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words.  $3 \times 5 = 15$

1. What is meant by classification of data? Discuss with example.
2. Differentiate between absolute and relative measure of dispersion.
3. Define chance and assignable causes.
4. Define (i) equally likely events (ii) mutually exclusive events (iii) independent events.

5. Differentiate between specification and tolerance limits.

**Section-B**

**(Short Answer Questions)**

Answer any *two* questions out of the following three questions. Each question carries  $7\frac{1}{2}$  marks. Short answer is required not exceeding 200 words.  $7\frac{1}{2} \times 2 = 15$

6. Discuss the various measures of central tendency with their merits and demerits.
7. Define the classical definition of probability with its limitations. A salesman has a 60% chance of making a sale to any one customer. The behaviour of successive customers is independent. If two customers A and B enter, what is the probability that the salesman will make a sale to A or B.
8. Define statistical quality control. Discuss control charts for  $\bar{X}$  and R in detail.

**Section-C**

**(Detailed Answer Questions)**

Answer any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail.  $15 \times 3 = 45$

9. Define dispersion. Calculate standard deviation of the following data :

Class interval	Frequency
5 - 10	6
10 - 15	5
15 - 20	15
20 - 25	10
25 - 30	5
30 - 35	4
35 - 40	3
40 - 45	2

10. Calculate median and mode from the following data :

Salary per day	No. of persons
1 - 5	7
5 - 10	10
10 - 15	16
15 - 20	32
20 - 25	24
25 - 30	18
30 - 35	10
35 - 40	5

11. Define permutations and combinations. A committee of 4 people is to be appointed from 4 officers of the production department, 5 officers of the purchase department, 3 officers of the sales department, and two chartered accountants. How many ways this committee can be formed :

- (i) by selecting one person from each category
- (ii) by selecting two from production department and one person from each purchase and sales department ?

12. Define control chart for number of defectives. In the manufacture of certain tanks the following data were observed :

Sample No.	Size	No. of Defectives
1	200	20
2	200	19
3	225	23
4	75	8
5	190	18
6	210	22
7	500	51
8	212	21

Draw the control chart for number of defective.

13. Discuss the various definitions of statistics. Describe the important uses and limitations of statistics.