

# **Bachelors in Computer Application (BCA) Semester 1**

## **ASSIGNMENT BOOKLET**

Assignments for subjects BSBC 101, BSBC 102, BSBC 103,  
BSBC 104  
(for Session January 2015)

Directorate of Distance Education  
Punjab Technical University, Jalandhar

## **Dear Student**

The assignment is the important component of our evaluation system and your internal assessment will be based on the assignments. The objective of such assignments is to enable you to comprehend the subject knowledge. The assignments are purposely designed on the lines of examination pattern so as to prepare you for the final examinations. In the entire semester, you will have to attempt **TWO** assignments. Assignment 1 will cover the topics from Unit 1 and Unit 2. Assignment 2 will cover topics from Unit 3 and Unit 4. All assignments are tutor marked assignments and carry 50 marks each. In internal assessment assignment 1 and assignment 2 shall carry the weightage of 20 marks respectively.

As the assignment is integral part of your internal assessment, it is compulsory to attempt the assignment. Therefore, plan well for the attempt of your assignments. Before attempting the assignment, please read **IMPORTANT INSTRUCTIONS** and all questions carefully and then arrange your answers in a rational sequence.

Dear student, please note following points regarding attempt of assignments:

- Assignments should be submitted in your own handwriting.
- Use A4 size plain papers for assignments.
- Carefully follow the instructions and ensure that you have attempted all questions.
- Answers should be correct and neatly written.
- Submit assignment of each subject in a separate file.
- Each assignment should consist of a title page containing the details of the student and subject (Template of title page is attached as **ANNEXURE**. Take print out of that annexure on A4 size page and fill it in your handwriting for each subject.)

### **Instructions for students regarding Submission of Assignments:**

- Before submitting the assignment, please retain one copy of your assignment with you and take receipt of the assignment from your study centre.
- Last date of submitting 1<sup>st</sup> Assignment of all subjects is 10<sup>th</sup> March, 2015.
- Please tag a self addressed A4 size envelope with assignments of all subjects separately.

**Work Hard and Perform Well!**

## COMMUNICATION- 1

### BSBC-101

#### IMPORTANT INSTRUCTIONS:

1. SECTION-A All questions are compulsory and each question carries 2 marks.
2. SECTION-B All questions are compulsory and each question carries 10 marks.

#### SECTION: A

**All questions are compulsory and each question carries 2 marks.**

1.
  - a. Use the following words as Nouns and Verbs:
    - (i) Force (ii) Post
  - b. Correct the following:
    - (i) Let each do their homework.
    - (ii) It is I, who is to blame.
  - c. Do as directed:
    - (i) We are not careless. (Write the sentence in singular)
    - (ii) Did you forget his name? (Change into present perfect form)
  - d. Transform the following into complex sentences:
    - (i) His offence was unpardonable.
    - (ii) On reaching manhood you will have to work for your living.
  - e. Change the narration:
    - (i) I said to him, "May God bless you!"
    - (ii) The captain said, "Bravo, Sunil! You played well."
  - f. Change the voice:
    - (i) When do you take food?
    - (ii) Let us play cards.
  - g. Substitute the following with one word:
    - (i) An office for which no salary is paid.
    - (ii) At the same time
  - h. Discuss briefly the linear modal of communication process.
  - i. List the physical barriers to communication.
  - j. Distinguish between formal and informal communication.

#### SECTION: B

**All questions are compulsory and each question carries 10 marks.**

2. (a) Write an essay in about 150 words on any of the following topics:
  - (i) Science and spirituality

(ii) The menace of corruption

(iii) Value of discipline in life

(b) Define Communication. Elaborate the process of communication with the help of diagram. (Marks 5)

3. What are various kinds of communication? Also discuss the functions of communication in society.

4. Make the précis of the following passage and give it an appropriate title:

These are two considerations which deserve at least a word in any discussion of the future of the Indian theatre. The first is the rapid development of the cinema as a competitive for prophesied favor. At first, in the early flush of cinematic triumph people—some of whom might have been expected to—prophesies the extinction of the theatre. It is now clear that though here and there, temporarily, the theatre may be affected, the cinema cannot hope to replace the stage and elbow it out of existence. Experience in the West has shown that the stage will always be required as a federal studio. For the technique is different and great stage actors have, always, to their disgust, discovered that film acting is at least only second best to them; it cannot mean to them what the stage means. Something is lacking in the human touch. In the theatre heart responds to heart and mind acts on mind in a way unknown to the cinema. Thus there is no danger of extinction to the theatre. On the other hand, the rivalry of the screen ought to and will put theatre to a new test and give it a new stimulus that may well lead to still higher planes of artistic achievement. Finally, a word about a national language spoken, written and thought might do for the theatre in India. With the new awakening in social life the need of a common tongue is being increasingly felt. Much work is being done to bring out a common linguistic medium. The day when, it is accepted will be a great day for the Indian theatre, as it will be for all art in the country. But the theatre, because its life blood is spoken word, will gain most. With a common tongue, with a live national consciousness, the theatre will become to its own as definite instrument of national unity reflecting the national mind, interpreting the national heart and dreaming national dreams for the future.

# PROGRAMMING IN C

## BSBC-102

### IMPORTANT INSTRUCTIONS:

1. SECTION-A All questions are compulsory and each question carries 2 marks.
2. SECTION-B All questions are compulsory and each question carries 10 marks.

### SECTION: A

**All questions are compulsory and each question carries 2 marks.**

1.
  - a. List the differences between flowchart and algorithm.
  - b. Explain the difference between compiling and debugging.
  - c. What we mean by bitwise operator? list various bitwise operators available in C.
  - d. What is the impact of putting ; at the end of 'if statement'?
  - e. When should one prefer for loop over while loop?
  - f. What is the difference between continue and break statement?
  - g. What will happen if one does not use break statement within cases of switch statement?
  - h. what do we mean by function prototype? give example.
  - i. What is the use of static storage class?
  - j. Can recursion result in infinite loop?

### SECTION: B

**All questions are compulsory and each question carries 10 marks.**

2. Compare and contrast the 4 four types of storage classes.
3. what are the differences between switch and if statement? Also write a program each to grade a student based on marks obtained using switch and if statement.
4. Explain in detail the difference between call by value and call by reference.

# MATHEMATICS-1

## BSBC-103

### IMPORTANT INSTRUCTIONS:

1. SECTION-A All questions are compulsory and each question carries 2 marks.
2. SECTION-B All questions are compulsory and each question carries 10 marks.

### SECTION: A

**All questions are compulsory and each question carries 2 marks.**

1.
  - a. Define mean and median.
  - b. Explain relation and function.
  - c. Explain idempotent laws.
  - d. What do we mean by Disjoint Sets?
  - e. Given  $X = \{\{1,2\}, 3\}$  and  $Y = \{1, 2, 3\}$ , are they equal sets?
  - f. if  $A \cup B = A \cup C$ , then is it necessary that  $B = C$ ? Justify your answer.
  - g. Prove that if R and S are transitive then  $R \cap S$  is also transitive.
  - h. Which of the following sentences are propositions and what are their truth values.  
 $4 + x = 3 + y$   
 $x + y = y + x$  for every pair of real numbers x and y
  - i. Let the universe of discourse of x consist of all real numbers. Determine the truth value of the  $\forall$  statement  $\forall x (x^2 = x)$ .
  - j. Let A be the set  $\{1, 2, 3, 4\}$ . List all ordered pairs which belong to the relation  $R = \{(a, b) \mid a \text{ divides } b\}$ .

### SECTION: B

**All questions are compulsory and each question carries 10 marks.**

2.
  - a. Show that  $A \cup (B - C) = (A \cup B) - (C - A)$
  - b. Show that  $\sim (p \vee (\sim p \wedge q))$  and  $\sim p \wedge \sim q$  are logically equivalent.
3.
  - a. Let R be a relation from  $A = \{a_1, a_2, \dots, a_m\}$  to  $B = \{b_1, b_2, \dots, b_n\}$ . What is the matrix representation of R?

b.  $M_{R_1} = \begin{pmatrix} 1 & 0 & 1 \\ 1 & 0 & 0 \\ 0 & 1 & 0 \end{pmatrix}$  and  $M_{R_2} = \begin{pmatrix} 1 & 0 & 1 \\ 0 & 1 & 1 \\ 1 & 0 & 0 \end{pmatrix}$

What are the matrices representing  $R_1 \cup R_2$  and  $R_1 \cap R_2$ ?

4. Solve the recurrence relation  $a_n = 4a_{n-1} + 5a_{n-2}$ ,  $a_1 = 2$ ,  $a_2 = 6$

# INFORMATION TECHNOLOGY

## BSBC-104

### IMPORTANT INSTRUCTIONS:

1. SECTION-A All questions are compulsory and each question carries 2 marks.
2. SECTION-B All questions are compulsory and each question carries 10 marks.

### SECTION: A

**All questions are compulsory and each question carries 2 marks.**

1.
  - a. List various applications of computer.
  - b. What is the role of CPU?
  - c. From which generation of computers it became possible for individuals to buy computers and why?
  - d. Convert hexadecimal 1101 0110 to binary equivalent.
  - e. What we mean by cache memory? Is there any type of memory faster than cache memory?
  - f. What all can you do with the help of mouse?
  - g. what are the advantages of using OCR?
  - h. Describe compact disk. what is the size in terms of memory of a compact disk?
  - i. What is the role of an assembler?
  - j. List various phases of a compiler.

### SECTION: B

**All questions are compulsory and each question carries 10 marks.**

2. Discuss in detail all types of computer memories in order of the access speed (fastest to slowest).
3. Discuss in detail various pointing and touch input devices.
4. Define computer. Explain its block diagram and Explain in detail the input mechanism used in the first two generations of computers.



**ANNEXURE**

**Title Page of Assignment**

<b>1</b>	<b>Name of the Student</b>	
<b>2</b>	<b>Registration Number</b>	
<b>3</b>	<b>Assignment Number (1/2)</b>	
<b>4</b>	<b>Subject Name</b>	
<b>5</b>	<b>Subject Code</b>	
<b>6</b>	<b>Date of Submission</b>	

**Signature of Student**

**Signature of Coordinator**

**FOR OFFICE USE**

Total Marks obtained: \_\_\_\_\_

Evaluated by: \_\_\_\_\_

(Signature of evaluator)