Bachelor of Computer Applications 2ⁿᵈ Semester

(2042)

COMPUTER ORGANIZATION

Paper—BCA-16-202

Time Allowed : Three Hours]   [Maximum Marks : 65

Note :— (1)   Attempt **One** question from each Unit.

(2)   Question No. 9 is compulsory.

(3)   All questions carry equal marks unless specified.

UNIT—I

1. Give the design and logic diagram of converting JK flip flop to D flip flop.

    13

2. Design a 5*32 decoder with four 3*8 decoders and a 2*4 decoder.

    13

UNIT—II

3. (a) What are addressing modes ? Discuss various addressing modes.

    8

   (b) What is RTL ? Discuss different logic micro-operations. 5

4. (a) Write a note on various instruction codes.

    6

   (b) Explain instruction cycle in detail.

    7

UNIT—III

5. (a) What is virtual memory ? Discuss its working. 5

   (b) Elaborate various mapping techniques of Cache memory.

   8

6. (a) Compare one pass and two pass assembler. 5

   (b) Write assembly language program to perform basic input/output. 8

UNIT—IV

7. Explain various physical components of a computer along with its inspection and diagnostics on PC. 13

8. Describe the working of various internal and external cards of PC.

   13

(Compulsory)

9. (a) Discuss fixed point and floating point representation. 3

   (b) What is the function of Bus Interface Unit ? 3

   (c) What is cycle stealing in DMA ? 3

   (d) Discuss various types of RAM and ROM. 2

   (e) What is an Expansion card ? 2

Bachelor of Computer Applications 2nd Semester

(2042)

ENGLISH (C)-B

Paper—BCA-16-201

(Same for B.Voc. Multimedia Graphics and Animation 2nd Semester)

Time Allowed : Three Hours]   **[Maximum Marks : 65**

Note :— Attempt *all* questions.

SECTION—A

I. Bring out the significance of the title of Agatha Christie's story, 'Accident'.

OR

Draw a character sketch of the Anarchist as portrayed in H.G. Wells' story, 'The Stolen Bacillus'.   10

II. Summarise in your own words the story of 'Tiger Corners' written by E.V. Lucas.

OR

Bring out the element of pathos as depicted in 'The Last Expedition' of Robert Falcon Scott.   10

III. (a) Give the summary of the poem :

The Charge of the Light Brigade

OR

All for Love. 5

(b) Give short answers to any *two* of the following questions :

(i) What are the traits that make an animal happier than man ?

(ii) Give the central idea of the poem, 'Sorrow'.

(iii) How does John Keats describe the passing of the day ? 5

(c) Explain with reference to the context :

The sunken cheek, the humid eyes,

E'en better than the tongue can tell;

In whose sad breast deep sorrow lies,

Where memory's rankling traces dwell.

OR

Who is more happy, when, with heart's content,

Fatigued he sinks into some pleasant lair

Of wavy grass, and reads a debonair

And gentle tale of love and languishment ? 5

SECTION—B

IV. Write a paragraph on any *one* of the following topics :

Value of Discipline, Online Shopping, College Life. 10

V. Use any *five* of the following words in sentences of your own : 10

Jubjlant, Guileless, Reiterating, Pestilence, Disengaged eye, A nice pickle to be in, Stunned and dazed, Self-contained.

VI. Translate any *five* sentences into English : 10

(1) वह एक घंटे से दरवाज़ा खटखटा रहा था।

(2) राम दर्द से चिल्ला रहा है।

(3) ईश्वर सबको अच्छा स्वास्थ्य दे।

(4) तुम्हारा लक्ष्य क्या है ?

(5) हमें गरीबों की मदद करनी चाहिए।

(6) अपना समय नष्ट मत करो।

(7) कितना कठिन रास्ता है।

(8) वह बहुत कम बोलती है।

(1) ਉਹ ਇੱਕ ਘੰਟੇ ਤੋਂ ਦਰਵਾਜ਼ਾ ਖੜਕਾਉਂਦਾ ਰਿਹਾ ਸੀ।

(2) ਰਾਮ ਦਰਦ ਨਾਲ ਚੀਕ ਰਿਹਾ ਹੈ।

(3) ਰਾਹਿਗੁ ਸਭ ਨੂੰ ਤੰਦਰੁਸਤੀ ਬਖ਼ਸ਼ੇ।

(4) ਤੁਹਾਡਾ ਉਦੇਸ਼ ਕੀ ਹੈ ?

(5) ਸਾਨੂੰ ਗਰੀਬਾਂ ਦੀ ਮਦਦ ਕਰਨੀ ਚਾਹੀਦੀ ਹੈ।

(6) ਆਪਣਾ ਸਮਾਂ ਬਰਬਾਦ ਨਾ ਕਰੋ।

(7) ਕਿੰਨਾ ਔਖਾ ਰਾਹ।

(8) ਉਹ ਬਹੁਤ ਘੱਟ ਬੋਲਦੀ ਹੈ।

For foreign students only

Paraphrase the following passage :

Happiness

Is a clean bill of health from the doctor,

And the kids shouldn't move back home for

more than a year,

And not being audited, overdrawn, in Wilkes-Barre,

in a lawsuit or in traction.   5

VII. Transform the following sentences as directed :

(1) He is so proud that he won't seek help.

(Re-write using too)

(2) I depend on what I earn.

(Change into a simple sentence)

(3) Refrain from drinking.

(Change into a negative sentence)

(4) His failure shocked everyone.   (Change the voice)

(5) I desire to have good break.

(Change into exclamatory sentence)

5

(i) **Printed Pages : 3**

(ii) **Questions** : 9

Sub. Code : | 0 | 9 | 2 | 1 |

Exam. Code : | 0 | 0 | 2 | 8 |

Bachelor of Computer Applications 2ⁿᵈ Semester
(2042)
FUNDAMENTAL OF WEB PROGRAMMING
Paper—BCA-16-203

Time Allowed : Three Hours]   **[Maximum Marks : 65**

Note :— (1) The question paper will consist of **five** Sections.

(2) There are total **nine** questions comprising **two** questions from each Section (A to D) and **one** compulsory question of short answer type (Section E).

(3) The students are required to attempt **one** question from each Section and the compulsory question.

(4) All questions carry equal marks unless specified.

SECTION—A

1. (a) Explain the process of how a browser communicates with a web server.   6

(b) Explain in brief :

(i) Intranet

(ii) Extranet.   7

2. (a) Differentiate between line break and paragraph break. Give syntax and example. 6

(b) Differentiate between cell padding and cell spacing. Give example to justify your answer. 7

SECTION—B

3. (a) Explain the process of linking a document externally and internally using anchor tag. 6

(b) What are frames in HTML ? Give a suitable example of using frames in HTML. 7

4. Design a form for an admission in a college using different form elements. 13

SECTION—C

5. (a) What are the different data types in Java Script ? Give examples of each. 7

(b) How event handling is carried out in Java Script ? Give a valid example for the same. 6

6. Explain the functions of :

(i) Math Object

(ii) String Object. 13

SECTION—D

7. (a) Write the steps to insert new webpages in a website using Dream Weaver. 6

(b) Write in steps to add links in a website using Dream Weaver. 7

8. Describe briefly the process of uploading the website to remote server. 13

SECTION-E

9. Answer the following questions briefly :

(i) Write a short note on FTP. 4

(ii) What is CSS ? Discuss briefly the importance of using CSS. 4

(iii) Define WWW. 5

(i) Printed Pages : 3   Roll No. ....

(ii) Questions   : 9   Sub. Code : | 0 | 9 | 2 | 2 |

                                Exam. Code : | 0 | 0 | 2 | 8 |

Bachelor of Computer Applications 2nd Semester
(2042)
OBJECT ORIENTED PROGRAMMING USING C++
Paper—BCA-16-204

Time Allowed : Three Hours]   [Maximum Marks : 65

Note :— Attempt **one** question from each Section (A to D) and the entire compulsory question (Section E). All questions carry equal marks.

SECTION—A

1. (a) Differentiate between Abstraction and Encapsulation. What are the advantages of new operator over malloc() ?   7

    (b) Describe in brief :

        (i) Use of reference variable

        (ii) Type casting   6

2. What are objects and how are they created ? How is memory allocated for them ? Write a sample program to demonstrate this.   13

SECTION—B

3. Describe the scenario in which operator overloading should be implemented. List the benefits achieved. Write a program to calculate distance between two coordinate points. General mathematical formula is - sqrt $((x2-x1)^2 + (y2-y1)^2)$ 13

4. (a) Data hiding features of OOPS does not allow to access private data of another class directly. How does friend function make it possible ? Demonstrate with an example.   7

    (b) How is a constructor function different from an ordinary function ? If a constructor is declared inline, how does compiler optimize it ?   6

SECTION—C

5. (a) In what ways are inheritance and polymorphism related ? Differentiate between protected and private members in context of inheritance.   7

    (b) Describe the ambiguity that may arise in multiple inheritance.   6

6. How does a virtual function help achieve runtime polymorphism ? List the rules for virtual functions. Write a program to show the utility of virtual functions.   13

SECTION—D

7. How is an exception handled in C++ ? What should be placed inside a 'catch' block ? How is an exception re-thrown ?   13

8. What are the steps involved in using a file in C++ program ? Discuss various classes available for file operations.   13

SECTION—E

9. Answer the following :

(a) List four new operators added by C++ which aid OOP.

2

(b) When do we need to use default arguments in a function?

2

(c) Why is it important to have destructors?

2

(d) What is a virtual base class?

2

(e) What is the advantage of saving data in binary file format?

2

(f) When do we use multiple catch handlers?

3