

Q.3 Write the following functions into conjunctive normal form, in which maximum number of variables are used :

(i) $f(x, y, z) = xy' + xz + xy,$

(ii) $(x + y + z)(xy + x'z).$

Q.4 Show that the relation " $xRy \leftrightarrow x - y$ is divisible by 5" where $x, y \in I$ defined in the set of integers I is an equivalence relation.

OR

Q.5 If a graph $G = (V, E)$ is defined by

$$V = \{v_1, v_2, v_3, v_4, v_5\}$$

$$E = \{(v_1, v_2)(v_1, v_3)(v_2, v_4)(v_3, v_4)(v_3, v_5)(v_4, v_5)\}$$

$$|V| = 5 \quad |E| = 7.$$

Find adjacency and incidence matrix of the graph.

BCA Part - I

BCA - 101

THEORETICAL FOUNDATION OF
COMPUTER SCIENCE
DISCRETE MATHEMATICS

Answer the following very short-answer-type questions in one or two sentences : (2 × 10 = 20)

- Q.1 Define contradiction.
Q.2 Write De-Morgan's law.
Q.3 Define Delta Circuit.
Q.4 Draw the switching circuits for the following Boolean function : $x \cdot z + z \cdot t.$
Q.5 Simplify the following :
 $\sim (p \vee \theta) \vee (\sim p \vee \theta)$

B.C.A. Part I
Paper 102
[Computer Fundamentals]

Answer the following very short answer type questions in one or two sentences. 2×10=20

1. Define Hybrid computer.
2. Write the full form of BCD.
3. What is smart card ?
4. Write the full form of MICR.
5. Define Buses.

- 6** Discuss the general purpose and special purpose computer.

Or

Discuss the NAND Gate.

- 7** Describe the scanning device.

Or

Explain the projector and speaker.

- 8** Write the different types of Registers.

Or

Explain Direct Access Storage Devices for large computer.

BCA -PART-1

Programming in C

- 1** Write a C program to define a function that will take two integers and return their average.
- 2** What are structures ? Explain with example.

Or

Write a C program to reverse a string in C.

- 3** Explain the use of Pointers in C.
- 4** Write a C program to display an array by passing it into a function.
- 5** Explain the following file handling functions :
 - (a) fopen
 - (b) fgets
 - (c) fscanf
 - (d) feof
 - (e) fflush.

BCA - PART -1
PC Software & Multimedia

Answer the following long answer type questions in word limit 300-350 : (10x5=50)

Q.1 What is mail - merge?

OR

Explain macro. Write down the steps to record a new macro.

Q.2 Explain format menu in Ms- Word.

OR

Write steps for create a pivot table.

Q.3 Briefly explain the steps for creating a power point presentation.

OR

Explain entering and editing text in PowerPoint presentation.

Q.4 How will you create a table in Ms- Access?

OR

Write features of Ms Access.

Q.5 Write about hardware and software resource requirement in animation.

OR

Write step for creating a new movie flash.

BCA PART-1

Web Technology

Answer the following long answer type questions in word limit 150-200 : (4 5=20)

Q.1 What is Internet? Explain applications of Internet.

OR

Explain following protocols in HTML

1) HTTP 2) FTP 3) SMTP 4) TELNET

Q.2 What is a link? Explain with example write an HTML code to create Hyper link to another web page.

OR

Explain following tag with example.

1) Body tag 2) Paragraph tag 3) Heading tag

Q.3 What is HTML? Explain.

OR

Explain event handling in java script.

Q.4 What is PHP? Explain feature of PHP.

OR

Explain control statement in PHP.

Q.5 What is E-commerce? Explain.

OR

Explain security threats with E-commerce.

BCA - PART-1
Communication Skills

1 Write a report on any of the following: 20
20

1. Oath taking ceremony of your college
2. Water scarcity in your colony
3. Blood donation camp organized by N.S.S. unit of your college
4. Bad conditions of roads in your colony

2 Write a leave application to your principal. 20

3 Write precis of the following passage and give it a suitable title to it:

One great defect of our civilization is that it does not know what to do with its knowledge. Science, as we have seen, has given us powers fit for the gods, yet we use them like small children, for example, we do not know how to manage our machines. Machines were made to be man's servants; yet he has grown so dependent on them that they are in a fair way to become his masters. Already most men spend most of their lives looking after and waiting upon machines. And the machines are very stern masters.

BCA - PART-1
Bridge Course

1 Prove that : $\tan^{-1} \frac{2}{11} + \tan^{-1} \frac{7}{24} = \tan^{-1} \frac{1}{2}$

OR

2 Solve : $\tan^{-1} 2a + \tan^{-1} 3x = \frac{\pi}{4}$

3 If a parabolic reflector is 20 cm in diameter and 5 cm deep, find its focus

OR

Find the equation of the circle which passes through the point of intersection of the lines $3x - 2y - 1 = 0$ and $4x + y - 27 = 0$ and whose centre is $(2, -3)$.

4 If the mean of the following distribution is 54, find the value of P :

Class	: 0-20	20-40	40-60	60-80	80-100
Frequency	: 7	P	10	9	13

5 Find the mean and standard deviation of the following distribution :

Marks	: 20-30	30-40	40-50	50-60	60-70
No. of Students	: 3	6	13	15	14
	70-80	80-90			
	5	4			

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ENVIRONMENT STUDIES
BCA/BCOM/BSC/BA - 1/2/3

(10x5=50)

प्रश्न 1. प्राकृतिक संसाधन से आप क्या समझते हैं? भारत के संदर्भ में विभिन्न प्रकार के प्राकृतिक संसाधन का वर्णन कीजिए।

What do you mean by Natural Resources? Describe various natural resources with reference to India.

OR

खाद्य संसाधन पर एक निबंध लिखिए।

Write an essay on food resources.

प्रश्न 2. जैव विविधता संरक्षण पर एक निबंध लिखिए।

Write an essay on Biodiversity conservation.

OR

एक पारिस्थितिकी तंत्र में जैविक घटकों का वर्णन कीजिए।

Describe the biotic components of an Ecosystem.

प्रश्न 3. वायु प्रदूषण के कारणों का तथा रोकथाम के उपाय का वर्णन कीजिए।

Describe the causes and control measures of air pollution.

OR

भूकम्प आपदा क्या है? भूकम्प आपदा प्रबंधन पर टिप्पणी कीजिए।

What is earthquake disaster? Comment on earthquake disaster management.

प्रश्न 4. मानव अधिकारों की उत्पत्ति एवं विकास का विवरण दीजिए।

Give an account of origin and development of Human Rights.

OR

मानव अधिकारों के प्रकारों का वर्णन कीजिए।

Describe the types of Human Rights.

प्रश्न 5. भारतीय नागरिकों के मूल अधिकारों का वर्णन कीजिए।

Describe the fundamental rights of Indian citizens.