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Roll No. ....

BBA/BCA/ETC.-I Sem.

**NP-3440**

**BBA/BCA/ETC Examination, Dec.-2022**

**Environmental Studies**

**(BBA/BCA/ETC.-008)**

*Time : Three Hours /* *[Maximum Marks : 100*

**Note :** This paper is divided into **three sections-A, B and C. Section-A** contains Descriptive Answer Questions. **Section-B** contains Short Answer Questions and **Section-C** contains Very Short Answer Questions. Attempt **all** the sections as per instructions.

**P.T.O.**

इस प्रश्न-पत्र को तीन खण्डों-अ, ब तथा स में विभाजित किया गया है। खण्ड-अ में विस्तृत उत्तरीय प्रश्न, खण्ड-ब में लघु उत्तरीय प्रश्न तथा खण्ड-स में अतिलघु उत्तरीय प्रश्न हैं। सभी खण्डों को निर्देशानुसार हल कीजिए।

### Section-A/खण्ड-अ

#### (Descriptive Answer Type Questions)

(विस्तृत उत्तरीय प्रश्न)

**Note :** This section contains **six** questions, Attempt any **three** questions. Each question carries **20** marks. Answer must be descriptive.  $20 \times 3 = 60$

इस खण्ड में छः प्रश्न हैं, जिसमें से तीन प्रश्न करने हैं। प्रत्येक प्रश्न 20 अंक का है। उत्तर निबन्धात्मक

होने चाहिए।

1. Explain the meaning of Environment. Also discuss all the factors of Environment.  
पर्यावरण का अर्थ समझाइए। तथा पर्यावरण के सभी तत्वों के बारे में भी बताइए।
2. What do you mean by mineral resources?  
Also explain the use and importance of either coal or petroleum.  
खनिज संसाधनों से आप क्या समझते हैं? कोयला अथवा पेट्रोलियम के महत्व एवं उपयोग के बारे में बताइए।
3. What is Water Pollution? Discuss the causes and types of water pollution.  
जल प्रदूषण क्या है? जल प्रदूषण के प्रकार एवं कारणों के बारे में बताइए।

4. What is Acid Rain? Discuss its causes and effects and suggest remedies to control it. <https://www.ccsustudy.com>

अम्लीय वर्षा क्या है? इसके कारण तथा प्रभावों की विवेचना कीजिए और इसको रोकने के उपाय समझाइए।

5. What is Ecosystem? Discuss different components of an ecosystem.

पारिस्थितिकी तंत्र क्या है? एक पारिस्थितिकी तंत्र के विभिन्न घटकों का वर्णन कीजिए।

6. What do you mean by Natural Resources?

Differentiate between renewable and non-renewable resources in detail. Give examples also.

प्राकृतिक संसाधनों से आप क्या समझते हैं? नवीनीकरण एवं गैर-नवीनीकरण संसाधनों के बारे में विस्तार से बताइए। उदाहरण भी दीजिए।

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### Section-B/खण्ड-ब

#### (Short Answer Type Questions)

(लघु उत्तरीय प्रश्न)

**Note :** This section contains **three** questions.

Attempt any **two** questions. Each question carries **10** marks.  $10 \times 2 = 20$

इस खण्ड में तीन प्रश्न हैं। किन्हीं दो प्रश्नों के उत्तर दीजिए। प्रत्येक प्रश्न 10 अंक का है।

7. What is thermal pollution? Discuss its effects on human life.

तापीय प्रदूषण क्या है? मानव जीवन पर इसके प्रभावों के बारे में बताइए।

8. What is Ozone layer? Discuss the causes of depletion.

ओजोन परत क्या है? इसके अवसाद के कारण बताइए।

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9. What do you mean by Rain water harvesting? Discuss.

वर्षा जल संचयन से आप क्या समझते हैं? बताइए।

**Section-C/खण्ड-स**

**(Very Short Answer Type Questions)**

(अति लघु उत्तरीय प्रश्न)

**Note :** This question contains **five** parts.

All part are **compulsory**. Each part

carries **4** marks.  $4 \times 5 = 20$

इस प्रश्न के पाँच भाग हैं। सभी भाग अनिवार्य हैं।

प्रत्येक भाग 4 अंकों का है।

10. (i) Wild life protection act.

वन्य जीव संरक्षण कानून (अधिनियम)

(ii) Environmental Degradation

पर्यावरणीय अवनयन

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(iii) Global Warming

वैश्विक उष्मीकरण

(iv) Disaster Management

आपदा प्रबन्धन

(v) Women empowerment

महिला सशक्तिकरण

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12. Define Multimedia. Nowadays how for a successful business multiple medias are playing an important role. Explain with real life examples.
13. How many types of business letters are written in Business Scenario? With the help of at least two Business. Letters example, throw light on importance of writing 'effective business letters.'

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**18004**

**B.C.A. Examination, Dec. 2022**

**Business Communication**

**(BCA-106)**

*Time : Three Hours ] [Maximum Marks : 75*

**Note :** Attempt questions from **all** sections as per instructions

**Section-A**

**Note :** Attempt **all** questions. Each question carries **three** marks. Very short answer is required not exceeding **75** words. 3×5=15

1. What do you mean by 'Rumour'? How it can damage the facts?
2. What are the functions of 'Business Communication'?

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**P.T.O.**

3. Write principles of effective writing.
4. What do you know about office 'Circulars'?
5. Write a short note on 'Telephone Answering Machine'?

### Section-B

**Note :** Attempt any **two** questions out of the following **three** questions. Each question carries **7½** marks. Short answer is required not exceeding **200** words.  $7\frac{1}{2} \times 2 = 15$

6. Write an enquiry letter to a book publisher to seek details of 'Operating System' and 'Professional Communication'- subject books. Ask details of authors and price of these subjects, books and discount also. Also ask for terms and conditions of payment after delivery of books.
7. How word processor helps in office jobs? Through example of a word processor discuss at least 5 features of it.

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8. Define 'The Art of Listening.' For focused listening what characteristics are required in a listener? Discuss.

### Section-C

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

9. Write short notes on the following:
  - (i) Facsimile (Fax)
  - (ii) Voice mail
  - (iii) Closed Circuit T.V.
10. For a successful professional which effective communication skills are required? How already existing skills can be polished, explain.
11. Write short notes:
  - (i) Difference between face-to-face conversation and dictaphone.
  - (ii) Electronic writing process
  - (iii) Press conference

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P.T.O.

11. Verify Cayley-Hamilton theorem of the matrix A and hence find  $A^{-1}$  where

$$A = \begin{bmatrix} 2 & -1 & 1 \\ -1 & 2 & -1 \\ 1 & -1 & 2 \end{bmatrix}$$

12. If  $\hat{a}$  and  $\hat{b}$  are Unit Vectors inclined at an angle 'A', then prove that

$$(i) \sin\left(\frac{A}{2}\right) = \frac{1}{2} |\hat{a} - \hat{b}|$$

$$(ii) \cos\left(\frac{A}{2}\right) = \frac{1}{2} |\hat{a} + \hat{b}|$$

$$(iii) \tan\left(\frac{A}{2}\right) = \frac{|\hat{a} - \hat{b}|}{|\hat{a} + \hat{b}|}$$

13. Evaluate the following integrals :

$$(a) \int x^2 \sin x \, dx$$

$$(b) \int x \sqrt{x+2} \, dx$$

$$(c) \int \frac{x}{(x^2+2)(x^2+3)} \, dx$$

**18005**

**B.C.A. Examination, Dec.-2022**

**MATHEMATICS - I**

**(BCA - 101)**

*Time : Three Hours ] [Maximum Marks : 75*

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

**Section - A**

**(Very Short Answer Type Questions)**

**Note :** Attempt **all** questions of this section.

Each question carries 3 marks.

3×5=15

1. Give an example of matrices A, B such that  $AB=0$  but  $A \neq 0, B \neq 0$ .

2. Verify Rolle's theorem for the function

$$f(x) = \sqrt{4-x^2} \text{ in the interval } [-2, 2].$$

3. Evaluate  $\lim_{x \rightarrow 0} \frac{\tan x - x}{x^2 \tan x}$ .

4. Write the relationship between Gamma and Beta function.

5. Find the characteristic roots of the matrix

$$A = \begin{bmatrix} a & h & g \\ 0 & b & f \\ 0 & 0 & c \end{bmatrix}$$

### Section-B

#### (Short Answer Type Questions)

**Note :** Attempt any **two** questions out of the following three questions. Each question carries  $7\frac{1}{2}$  marks.

$$7\frac{1}{2} \times 2 = 15$$

6. Explain  $\log_e(1+x)$  in ascending powers of 'x'.

7. Solve by Cramer's Rule :

$$5x - 7y + z = 11$$

$$6x - 8y - z = 15$$

$$3x + 2y - 6z = 7$$

8. Prove that Conical text of given capacity will require the least amount of Canvas when the height is  $\sqrt{2}$  times the radius of the base.

### Section-C

#### (Long Answer Type Questions)

**Note :** Attempt any **three** questions out of the following five questions. Each question carries 15 marks.  $3 \times 15 = 45$

9. Trace the curve

$$4ay^2 = x(x-2a)^2$$

10. If  $y = (\sin^{-1} x)^2$  prove that

$$(1-x^2)y_2 - xy_1 - 2 = 0 \text{ also prove that}$$

$$(1-x^2)y_{n+2} - x(2n+1)y_{n+1} - n^2y_n = 0$$



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**18003**  
**B.C.A. Examination, Dec. 2022**  
**Principles of Management**  
**(BCA-104)**

*Time : Three Hours ] [Maximum Marks : 75*  
**Note :** Attempt **all** the sections as per instructions.

**Section-A**

**(Very Short Answer Type Questions)**

**Note :** Attempt all **five** questions.  $3 \times 5 = 15$

1. What do you mean by "management is a process"? 3
2. Who are formal leaders? 3
3. What do you mean by Forecasting? 3
4. Explain any two business strategies? 3
5. Define the steps of controlling? 3

**P.T.O.**

### Section-B

#### (Short Answer Type Questions)

**Note :** Attempt any **two** questions.

7.5×2=15

6. What are the factors affecting decision making process? 7.5
7. What are the skills require by manager at different levels? 7.5
8. Distinguish between authority and responsibilities? 7.5

### Section-C

#### (Long Answer Type Questions)

**Note :** Attempt any **three** questions.

15×3=45

9. What do you mean by levels of Management? Briefly describe the different levels of management? 15

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10. (a) What do you mean by centralization and decentralization? 7.5
- (b) Explain system approach by modern management theory? 7.5
11. What is meant by Leadership? Also discuss the reasons that make leadership necessary. 15
12. Discuss the condition of need for change in organization. Also discuss the alternative change techniques. 15
13. Write a short note on: 5×3=15
- (a) Staffing
- (b) Policies
- (c) Strategic planning

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**18002**

**B.C.A. Examination, Dec.-2022**  
**Programming Principles and Algorithm**  
**(BCA-102)**

*Time : Three Hours / [Maximum Marks : 75*

**Note :** Attempt questions from **all** sections  
as per instructions

**Section-A**

**Note :** Attempt **all** questions. Each question  
carries **three** marks.  $3 \times 5 = 15$

1. Explain the structure of 'C' programming with example.
2. What is the need of data type in programming? Explain.
3. What is syntax and usage of Puchar ()?
4. Define Recursion. Explain with the help of example?

5. What is the use of getch () and getchar () function in C language?

### Section-B

**Note :** Attempt any **two** questions. Each question carries **7.5** marks.

$$2 \times 7.5 = 15$$

1. Explain the time and space complexity.
2. Explain call by value and call by reference with example.
3. What is function? Explain function definition with suitable examples.

### Section-C

**Note :** Attempt any **three** questions. Each question carries **15** marks.  $3 \times 15 = 45$

1. Explain the use of break, continue and goto statement in looping.

2. Write short note on:

- (a) Loops in C
- (b) If statement
- (c) Higher level language
- (d) Compiler
- (e) Preprocessor directives

3. (a) Define algorithm. Explain characteristics of algorithm.

- (b) Write an algorithm to check number is palindrome or not.

4. What is Operator? Explain the different types of operator in C.

5. (a) Write a 'C' program to check whether the given number is Armstrong or not. <https://www.ccsustudy.com>

- (b) Write a 'C' program to calculate factorial of a number.

12. (a) What is Database Management System? Explain the characteristics of DBMS. 7.5

(b) Write down the advantages and disadvantages of flow-chart. 7.5

13. Write a short note on the following:  
3×5=15

(a) Machine Language

(b) Icons

(c) Paintbrush

(d) PROM

(e) CD and DVD

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**18001**

**B.C.A. Examination, Dec.-2022**

**Computer Fundamental and  
Office Automation**

**(BCA-103)**

*Time : Three Hours ] [Maximum Marks : 75*

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

**Section-A**

**(Very Short Answer Questions)**

**Note :** Attempt **all** questions. Each question carries **03** marks. Very short answer is required. 3×5=15

1. Explain any five output devices with their uses. 3

2. Differentiate among the GUI and CUI. 3

**P.T.O.**

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3. What is batch file? Write steps to create a batch file. 3
4. What do you mean by editors? 3
5. Draw a flow-chart to find-out greatest no. among the three numbers. 3

### Section-B

**Note :** Attempt any **two** questions Each question carries **7.5** marks.

$$7.5 \times 2 = 15$$

6. What is Operating System? Explain its types in detail. 7.5
7. Explain the following: 3×2.5=7.5
- Compiler
  - Interpreter
  - Assembler
8. Convert the following: 1.5×5=7.5
- $(12124)_8 = (?)_{16}$
  - $(1010110.11)_2 = (?)_{10}$
  - $(10011010)_2 + (110010)_2$
  - $(1010110.11)_2 * (1110)_2$
  - $(ABE5)_{16} = (?)_{10}$

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### Section-C

#### (Detailed Answer Questions)

**Note :** Attempt any **three** questions. Each question carries **15** marks.  $15 \times 3 = 45$

9. (a) Explain the characteristics and components of computer in detail. 7.5
- (b) Explain any five internal and five external commands of MS-DOS. 7.5
10. (a) What is MS-Windows? Explain the features of MS-Windows. 7.5
- (b) What is difference between control panel and taskbar. 7.5
11. (a) What is MS-Word? How can we create a document in word? Write steps to create a document in word. 7.5
- (b) What is MS-Access? Give the steps to create a new table in MS-Access. 7.5

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7.5  
P.T.O.