

NP-3440 (CV-II)**BBA/BCA/BPT/ETC. Spl. & Back Paper
Examination, Nov.-2021****Environmental Studies**

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

*Time : 1½ Hours]**[Maximum Marks : 100*

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

नोट : 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 अति लघु उत्तरीय प्रश्न है। सभी खण्डों को निर्देशानुसार हल कीजिए।

P.T.O.**Section-A/खण्ड-अ****(Long Answer Type Questions)**

(विस्तृत उत्तरीय प्रश्न)

Note : This section contains **six** questions. Attempt any **two** questions. Each question carries 30 marks. $2 \times 30 = 60$

नोट : इस खण्ड में छः प्रश्न हैं। किन्हीं दो प्रश्नों के उत्तर दीजिए। प्रत्येक प्रश्न 30 अंक का है।

1. Define ecosystem and discuss its fundamental concepts.
पारिस्थितिकी तंत्र को परिभाषित कीजिए तथा इसकी मौलिक संकल्पनाओं की विवेचना कीजिए।
2. What are the reasons of exploitation of natural resources? Explain.
प्राकृतिक संसाधनों के दोहन के क्या कारण हैं। वर्णन कीजिए।
3. Discuss the concept of population pressure.
जनसंख्या दबाव की संकल्पना की व्याख्या कीजिए।
4. Discuss the different types of pollution.
प्रदूषण के विभिन्न प्रकारों की व्याख्या करें।

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5. Write an essay on Man and Environment relationship.

मानव एवम् पर्यावरण के बीच सम्बन्धों पर एक निबन्ध लिखें।

6. Review the role of modern transport system causing environmental pollutions.

पर्यावरण प्रदूषण में आधुनिक परिवहन की भूमिका की समीक्षा कीजिए।

Section-B/खण्ड-ब

(Short Answer Questions)

(लघु उत्तरीय प्रश्न)

Note : This section contains **three** questions. Attempt any **one** question. Each question carries 20 marks. $1 \times 20 = 20$

नोट : इस खण्ड में तीन प्रश्न हैं। किसी एक प्रश्न का उत्तर दीजिए। प्रत्येक प्रश्न 20 अंक का है।

7. Write a short note on conservation of wild-life.

वन्य जीवों के संरक्षण पर संक्षिप्त टिप्पणी लिखिए।

8. What do you mean by Global Warming?

वैश्विक उष्मन से आपका क्या अभिप्राय है?

9. Green House effect.

हरित गृह प्रभाव

Section-C/खण्ड-स

(Very Short Answer Type Questions)

(अति लघु उत्तरीय प्रश्न)

Note : This question contains **five** parts. Attempt any **two** parts. Each part carries 10 marks. $10 \times 2 = 20$

नोट : निम्नलिखित पाँच प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर दीजिये। प्रत्येक प्रश्न 10 अंकों का है।

10. (i) Hydrological cycle.

जलीय चक्र

(ii) Environmental Hazards

पर्यावरणीय आपदाएँ

(iii) Means of water conservations

जल संरक्षण के साधन

(iv) Depletion of ozon layer

ओजोन परत अवक्षय

(v) Chipko Movement

चिपको आन्दोलन

A

(Printed Pages 4)

(20222)

Roll No. _____

B.C.A.-I Sem.

18004 (CV-III)

B.C.A. Examination, Dec.- 2021

BUSINESS COMMUNICATION

(BCA-106)

Time : 1½ Hours]

[Maximum Marks : 75

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

Section- A

Note : Attempt any **two** questions. Each question carries 7.5 marks. Very short answer is required not exceeding 75 words. $2 \times 7.5 = 15$

1. What do you mean by E-commerce?
Describe C to B (Consumer to Business)

P.T.O.

2. Explain the term 'Enclosures'.
3. What is tele printer?
4. What is teleconferencing? What are the advantages of teleconferencing?
5. What is the main purpose of circular letters?

Section- B

Note : Attempt any **one** question out of the following **three** questions. Each question carries 15 marks. Short answer is required not exceeding 200 words. $1 \times 15 = 15$

6. "Brevity at its best" - Elucidate the essentials of a good business letter.
7. Discuss in detail any two types of interview?
8. Explain the purpose and importance of
(i) E-mail (ii) Voice - mail

18004 (CV-III)/2

Section- C

Note : Answer any **two** questions out of the following **five** questions. Each question carries 22.5 marks. Answer is required in detail. $2 \times 22.5 = 45$

9. Define :

- (a) Office Memorandums
- (b) Dictaphone
- (c) Video Conferencing

10. "Communication is the life blood of business". Explain it and discuss why communication is so important to an organization. (10)

11. (a) It is said that 'face is an index of mind'? Discuss the role of facial expressions in effective presentation.

(b) Explain how technology can help in the writing task.

12. Explain the concept of seminar. What are its features? How will you arrange a successful seminar?
13. What is meant by writing skills? Give the various steps of writing skills. Also give the guidelines of effective skills.

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P.T.O.

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A
(20222)
BCA-I Sem.

(Printed Pages 4)
Roll No.

18005 (CV-III)

B.C.A. Examination, Dec.-2021

MATHEMATICS-I

(BCA-101)

Time : 1½ Hours *[Maximum Marks : 75]*

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

Section-A

(Very Short Answer Questions)

Note : Attempt any **two** questions of this Section. Each question carries **7.5** marks. Very short answer is required.

$2 \times 7.5 = 15$

1. Define continuity at a point.
2. State Caley-Hamilton Theorem.

P.T.O.

3. If $y = \sqrt{\frac{1 - \cos 2x}{1 + \cos 2x}}$, find $\frac{dy}{dx}$
4. Evaluate $\int \log_e x \, dx$.
5. Find λ such that \vec{a} and \vec{b} are perpendicular vector where
 $\vec{a} = 2\hat{i} + \lambda\hat{j} + \hat{k}$, $\vec{b} = \hat{i} - 2\hat{j} + 3\hat{k}$.

Section-B

(Short Answer Questions)

Note : Attempt any **one** question out of the following **three** questions. Each question carries **15** marks. Short answer is required. $1 \times 15 = 15$

6. Expand e^x in ascending powers of x by Maclaurin's theorem.
7. Differentiate x^x .
8. Prove that

$$\begin{vmatrix} 1 & a & a^3 \\ 1 & b & b^3 \\ 1 & c & c^3 \end{vmatrix} = (a - b)(b - c)(c - a)(a + b + c).$$

18005 (CV-III)/2

Section-C

(Detailed Answer Questions)

Note : Attempt any **two** questions out of the following **five** questions. Each question carries **22.5** marks. Answer is required in detail. $2 \times 22.5 = 45$.

9. (a) Find the inverse of the matrix

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

- (b) Determine the eigen values of the matrix

$$A = \begin{bmatrix} 5 & 4 \\ 1 & 2 \end{bmatrix}$$

10. (a) Show that the function $f(x) = |x|$ is continuous at $x=0$.

- (b) Evaluate

$$\lim_{h \rightarrow 0} \left(\frac{\sqrt{x+h} - \sqrt{x}}{h} \right)$$

18005 (CV-III)/3

P.T.O.

11. (a) Differentiate $y = x \sin x \log x$.

- (b) Find the maximum and minimum values of $(3x^4 - 8x^3 + 12x^2 - 48x + 25)$ in $[0, 3]$.

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

- (b) Evaluate $\int (\sqrt{\sin x} \cdot \cos x) \, dx$.

13. (a) Show that the vectors

$$\hat{i} - 3\hat{j} + 4\hat{k}, 2\hat{i} - \hat{j} + 2\hat{k} \text{ and } 4\hat{i} - 7\hat{j} + 10\hat{k}$$

are coplanar.

- (b) Find the area of a parallelogram whose adjacent sides are determined by the vectors.

$$\vec{a} = \hat{i} + 2\hat{j} + 3\hat{k} \text{ and } \vec{b} = -3\hat{i} - 2\hat{j} + \hat{k}.$$

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A
(20222)
B.C.A.-I Sem.

(Printed Pages 4)
Roll No.

18001 (CV-III)

B.C.A. Examination, Dec.-2021

Computer Fundamentals and Office

Automation

(BCA-103)

Time : 1½ Hours] *[Maximum Marks : 75*

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

Section-A

(Very Short Answer Questions)

Note : Answer any **two** questions. Each
question carries 7.5 marks. Very short
answer is required. $2 \times 7.5 = 15$

P.T.O.

1. Perform the following conversions :

(a) $(1101001)_2 = (?)_{16}$

(b) $(462.35)_{10} = (?)_8$

(c) $(F3C7.A)_{16} = (?)_2$

2. Differentiate between algorithm and
flowchart.

3. Write any 3 services provided by an
operating system.

4. What is the difference between Microsoft
Excel and Microsoft Word?

5. Write any three benefits of MS-Access?

Section-B

(Short Answer Questions)

Note : Answer any **one** question out of the
following **three** questions. Each
question carries 15 marks. Short
answer is required. $1 \times 15 = 15$

18001 (CV-III)/2

6. What should be the characteristics of an efficient algorithm?
7. Define operating system. Explain the different types of operating system.
8. Explain the following :
 - (a) Control Panel
 - (b) Windows Accessories
 - (c) Desktop

Section-C

(Detailed Answer Questions)

Note : Answer any **two** questions out of the following **five** questions. Each question carries 22.5 marks. Answer is required in detail. $2 \times 22.5 = 45$

9. What do you mean by programming languages? Differentiate between high-level, assembly and machine language.

18001 (CV-III)/3

P.T.O.

10. What is primary and secondary memory?

✓ Explain the various types of Random access memory.

11. Discuss various types of symbols used in a flowchart. Explain with the help of an example of any flowchart of your choice.

12. What do you mean by DOS commands? Explain any three internal and external commands of DOS with their syntax.

13. What is the purpose of Power Point? Explain its various features that are used for preparing a business presentation.

18001 (CV-III)/4

A
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B.C.A.-I Sem.

(Printed Pages 3)
Roll No:-

18003 (CV-III)

B.C.A. Examination, Dec.-2021

PRINCIPLES OF MANAGEMENT

(BCA-104)

Time : 1½ Hours] [Maximum Marks : 75

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

Section-A

(Very Short Answer Questions)

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

$2 \times 7.5 = 15$

1. What are the features of TQM?

P.T.O.

2. Who are formal leaders?
3. What do you mean by forecasting?
4. Name the two models of change.
5. What are the different types of levels of strategy?

Section-B

(Short Answer Questions)

Note : Attempt any **one** question out of
the following **three** questions. Each
question carries 15 marks. $1 \times 15 = 15$

6. Differentiate between Strategic management and Business policy.
7. Discuss the contribution of Elton Mayo to Management Science.
8. Discuss the meaning and nature of Coordination.

18003 (CV III)/2

Section-C

(Detailed Answer Questions)

Note : Answer any **two** questions out of the given **five** questions. Each question carries 22.5 marks. $2 \times 22.5 = 45$

9. What is growing relevance of strategic management in India? Discuss.
10. Describe the objectives and importance of Communication in business.
11. Discuss the various steps which are involved in the planning process.
12. Define Ethics and Social responsibility of business? What are different tools of Ethics?
13. Describe various causes of resistance to change.

18003 (CV-III)/3

A (Printed Pages 4)
(20222) Roll No.
B.C.A.-I Sem.

18002 (CV-III)

B.C.A. Examination, Dec.-2021

PROGRAMMING PRINCIPLES AND ALGORITHM (BCA-102)

Time : 1½ Hours] [Maximum Marks : 75

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

Section-A

(Very Short Answer Questions)

Note : Answer any **two** questions. Each question carries 7.5 marks. Very Short answer is required not exceeding 75 words.

$2 \times 7.5 = 15$

P.T.O.

1. Write the use of comments in C program.
2. What do you understand by associativity and precedence of operators?
3. What do you mean by complexity of an algorithm?
4. What is scope of variable?
5. What do you mean by storage classes in C?

Section-B

(Short Answer Questions)

Note : Attempt any **one** questions out of the following **three** questions. Each question carries 15 marks. Short answer is required not exceeding 200 words. $1 \times 15 = 15$

6. Explain print f() and scan f() function used in C program with the help of an example.

18002 (CV-III)/2

7. Explain the different steps used to solve any problem.
8. Write a program in C language to check whether the given number is prime or not.

Section-C

(Detailed Answer Questions)

Note : Attempt any **two** questions out of the following **five** questions. Each question carries 22.5 marks. Answer is required in detail. $2 \times 22.5 = 45$

9. Explain the logical and bitwise operators available in C with the help of suitable example. <https://www.ccsustudy.com>
10. Discuss the following with syntax and example :
 - (i) Get ch (), get char (), put char ()
 - (ii) # include, # define

11. Explain any three control structures in C with proper syntax and examples.
12. Discuss the following problem solving techniques :
 - (i) Trail & Error
 - (ii) Divide & Conquer
13. How do you call a function in main C program? Explain with the help of a C program of your own choice.

18002 (CV-III)/3

P.T.O.

18002 (CV-III)/4

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B.C.A.-I Sem.

(Printed Pages 4)
Roll No.

18004 (CV-II)
B.C.A. Spl. and Back Paper
Examination, Nov.-2021
BUSINESS COMMUNICATION

(BCA-106)

Time : 1½ Hours *[Maximum Marks : 75*

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

Section-A

Note : Attempt any **two** questions. Each question carries **7.5** marks. Very short answer is required. Not exceeding 75 words. $2 \times 7.5 = 15$

1. Give two limitations of facsimile as a tool for communication.
2. What is "Interactive Communication"?

P.T.O.

3. What are the barriers to listening and how does one overcome them?
4. What is circular? Specify the difference between notice and circular.
5. What is statutory report?

Section-B

Note : Attempt any **one** question, out of the following **three** questions. Each question carries **15** marks. Short answer is required not exceeding 200 words. $1 \times 15 = 15$

6. Differentiate the official letters and business letters.
7. Specify how Information Technology is helping managers in transmitting and conveying information, data by using IT tools and gadgets.

18004(CV-II)/2

8. What is art of listening? Explain the principles of good listening.

Section-C

Note : Answer any **two** questions out of the following **five** questions. Each question carries **22.5** marks. Answer is required in details. $2 \times 22.5 = 45$

9. Define the term feedback. Explain its process, method and guidelines to make effective feedback.

10. (a) "Kinesics plays an important role in communication". Discuss this statement.

(b) Explain the importance of 7 c's of communication as given by Francis

J. Bergin.

18004(CV-II)/3

P.T.O.

11. What do you mean by internet? What are its uses? Also writes the barriers in its way.

12. (a) "Complaints are not routine letters. The writer has to write them with special case and skills." Do you agree to this view? Justify your answer.

(b) Draft a sales letter to promote the sales of some new product.

13. (a) Comment on the importance of public address system.

(b) Comment on Enquiries and reply letters.

D

(21121)

B.C.A.-I Sem.

(Printed Pages 4)

Roll No.

18005 (CV-II)
B.C.A. Spl. and Back Paper
Examination, Nov.-2021

MATHEMATICS-I

(BCA-101)

Time : 1½ Hours]

[Maximum Marks : 75

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

Section-A

Note : Attempt any **two** questions of this section. Each question carries 7.5 marks. Short answer is required.

$2 \times 7.5 = 15$

1. Define Eigen value and Eigen Vector of a matrix.

P.T.O.

2. Evaluate $\lim_{x \rightarrow 0} \left(\frac{1}{x}\right)$.

3. Explain Beta function and Gamma function.

4. Find the second differential coefficient of $x^4 \cdot e^{5x}$.

5. What is the difference between Scalars and Vectors. Explain in brief with some example.

Section-B

Note : Attempt any **one** question out of the following three questions. Each question carries **15** marks. $1 \times 15 = 15$

6. Find $\lim_{x \rightarrow 1} \left(\frac{x^5 - 2x^3 - 4x^2 + 9x - 4}{x^4 - 2x^3 + 2x - 1}\right)$.

7. By using Maclaurin's theorem, prove that $\sin x = x - \frac{x^3}{3!} + \frac{x^5}{5!} - \dots + (-1)^n \frac{x^{2n+1}}{(2n+1)!} + \dots$

8. If $u_n = \int x^n \cdot (a-x)^{1/2} dx$ then show that $(2n+3) u_n = 2an u_{n-1} - 2x^n (a-x)^{3/2}$.

18005(CV-II)/2

Section-C

Note : Attempt any **two** questions out of the following five questions. Each question carries **22.5** marks.

$$2 \times 22.5 = 45$$

9. Check the continuity and differentiability of the function defined by $f(x) = |x|$ at $x=0$.

10. Explain Cramer's Rule. Solve the following equations

$$2x - y + 3z = 9$$

$$x + y + z = 6$$

$$x - y + z = 2 \text{ by Cramer's Rule.}$$

11. If $\vec{r}(t) = 5t^2\hat{i} + t\hat{j} - t^3\hat{k}$, then

Prove that

$$\int_1^2 \left(\vec{r} \times \frac{d^2\vec{r}}{dt^2} \right) dt = -14\hat{i} + 75\hat{j} - 15\hat{k}.$$

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P.T.O.

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12. If $I_n = \int_0^{\pi/4} \tan^n x \, dx$ then prove that

$$I_n + I_{n-2} = \frac{1}{n-1}$$

and deduce the value of I_5 .

13. Verify Rolle's theorem for the function

$f(x) = (x^2 + 2x - 3)e^x$ in the interval $[-3, 1]$.

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B.C.A.-I Sem.

18003 (CV-II)

B.C.A. Spl. and Back Paper

Examination, Nov. - 2021

PRINCIPLES OF MANAGEMENT

(BCA-104)

Time : 1½ Hours]

[Maximum Marks : 75

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

Section-A

(Very Short Answer Questions)

Note : Attempt any **two** questions. Each question carries **7.5** marks. Very short answer is required not exceeding 75 words. $2 \times 7.5 = 15$

1. Explain the Concept of Management charge.

P.T.O.

2. What are the essential qualities of a leader?
3. What do you mean by managerial grid?
4. What is organisation chart?
5. Define MBO according to Koontz and O'Donnell.

Section-B

Note : Attempt any **one** question out of the following **three** questions. Each question carries **15** marks. Short answer is required not exceeding 200 words. $1 \times 15 = 15$

6. Differentiate between for Casting & Planning.
7. Discuss the Contribution of Elton Mayo to management Science.
8. Discuss the merits and demerits of a good leader.

Section-C

Note : Attempt any **two** questions out of the following **five** questions. Each question carries **22.5** marks. Answer is required in details. $2 \times 22.5 = 45$

9. Describe in detail Fayol's principles of management.
10. What do you understand by the term Organisation? Give its nature and importance.
11. What do you understand by Controlling? What are the various techniques of Controlling the operations?
12. What is growing relevance of strategic management in India? Discuss.

13. Define ethics and social responsibility of business. What are different tools of ethics?

18003(CV-II)/3

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