

2023

Time : 3 hours

Full Marks : 70

Pass Marks : 32

**Candidates are required to give their answers in
their own words as far as practicable.**

The figures in the margin indicate full marks.

Answer from all the Groups as directed.

Group – A

(Objective Type Questions)

1. Select the correct answer of the following :

$1 \times 5 = 5$

- (a) Which section of the Environment Protection Act, 1986 deals with offences by companies ?
- (i) Section 16 (ii) Section 14
- (iii) Section 18 (iv) None of these
- (b) Environmental Protection and improvement were explicitly incorporated into the

constitution by the _____ by inserting Articles 48-A and 51-A(g) in DPSP and Fundamental Duties respectively.

- (i) 52nd Amendment Act, 1985
- (ii) 35th Amendment Act, 1974
- (iii) 42nd Amendment Act, 1976
- (iv) 45th Amendment Act, 1985

(c) When did the Environment Protection Act, 1986 come into force ?

- (i) 1 April, 1986
- (ii) 1 March, 1986
- (iii) 1 May, 1986
- (iv) 19 November, 1986

(d) Which of the following is the first declaration in the international environmental laws to recognise the right to a healthy environment ?

- (i) Rio Declaration
- (ii) Stockholm Declaration
- (iii) Earth Summit
- (iv) None of these

(e) NGT was established under which act ?

- (i) National Environment Appellate Authority Act, 1977

- (ii) National Green Tribunal Act, 2010
- (iii) The Environment Protection Act, 1986
- (iv) None of these

2. Fill in the blanks of the following : $1 \times 5 = 5$

- (a) _____ Act is known as Umbrella Legislation.
- (b) The famous environmentalist of Chipko Andolan _____.
- (c) The Wild Life Protection Act was enacted in the year 1972.
- (d) Penalty for contravention of the provisions of the Act and the rules, orders and directions is provided in Section _____ of the Environment Protection Act, 1986.
- (e) CPCB stands for _____.

Group – B

(Short-answer Type Questions)

3. Answer any four questions of the following :

$$5 \times 4 = 20$$

- (a) Global Warming
- (b) National Green Tribunal Act
- (c) Copenhagen Accord, 2010

- (d) Concept of Environment
- (e) Kyoto Protocol
- (f) Montreal Protocol

Group - C

(Long-answer Type Questions)

4. Answer any four questions of the following :

$$10 \times 4 = 40$$

- (a) Describe the salient features of Environment Protection Act, 1986.
- (b) What is Pollution ? Describe sources, types and effects of pollution.
- (c) What are the kinds of ecosystem ? What legal protection does environment had against polluters ?
- (d) Explain the project 'Namami Ganga' briefly.
- (e) Describe the relationship between directive principle of State Policy and Fundamental Duties with respect to protection of environment in India.
- (f) Explain the following :
 - (i) Biosphere
 - (ii) Vienna Convention

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Group – A

(Objective Type Questions)

1. [A] Choose the correct answer of the following :

$1 \times 5 = 5$

(a) The Structure Analyse of the following :

- (i) Decision tree**
- (ii) Decision Table**
- (iii) Structural English**
- (iv) All of these**

XG – 18/3

(Turn over)

(b) DFD represent the following :

- (i) Graphical descreption of Data
- (ii) Algorithm
- (iii) Flow chart
- (iv) None of these

(c) INF represent :

- (i) Grouping of the data
- (ii) Redundancy control
- (iii) Transitive dependencies
- (iv) None of these

(d) System Implementation phase entails :

- (i) System Check outs
- (ii) Pilot run
- (iii) Parallel runs
- (iv) All of these

(e) Problem Analysis is done during :

- (i) System Design
- (ii) System Analysis
- (iii) System Test
- (iv) All of these

[B] Fill in the blanks of the following : $1 \times 5 = 5$

- (a) In a DFD external entities are represented by _____.
- (b) A Pseudo code is _____.
- (c) A feasibility study _____.
- (d) The first step in System Development Life Cycle is _____.
- (e) BGNF stands for _____.

Group – B

(Short-answer Type Questions)

2. Answer any four questions of the following :

$5 \times 4 = 20$

- (a) Explain the Elements of System.
- (b) What is Data Dictionary ? Explain the symbols of Data Dictionary.
- (c) Explain the SSAD suitable example.
- (d) Describe the ER Diagram with example.
- (e) Explain the function of System Analyst.
- (f) Explain the following :
- (i) DSS

- (ii) CAD (Context Analysis Diagram)
- (iii) Computer Based Information System

Group - C
(Long-answer Type Questions)

3. Answer any four questions of the following :

$$10 \times 4 = 40$$

- (a) What is feasibility study ? Explain the type of feasibility study.
- (b) Explain the 1NF, 2NF and 3NF with suitable example.
- (c) What is Structural Analysis ? Explain the types of Structural Analysis.
- (d) List the different phases in SDLC.
- (e) Explain the logical and physical design in SSAD.
- (f) Explain the following :
 - (i) System Testing
 - (ii) MIS
 - (iii) Cost/Benefit Analysis
 - (iv) DFD

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Group – A

(Objective Type Questions)

1. Select the correct answer of the following :

$1 \times 5 = 5$

**(a) Which program act as a core program of
complete operating system ?**

- | | |
|---------------------|---------------------------|
| (i) Fork | (ii) Kill |
| (iii) Kernel | (iv) None of these |

(b) Operating system acts as a :

- (i) Resource allocator
- (ii) Control program
- (iii) Interface
- (iv) All of these

(c) Compiler designing phases :

- (i) Lexical analysis
- (ii) Semantic analysis
- (iii) Syntax analysis
- (iv) All of these

(d) A ready queue is :

- (i) An inverted list
- (ii) A circular linked list
- (iii) A linked list
- (iv) None of these

(e) Unix is written in :

- (i) Perl
- (ii) 'C' language
- (iii) Java
- (iv) None of these

2. Fill in the blanks of the following :

$1 \times 5 = 5$

(a) Kernel is part of _____.

(b) Pwd command is used to _____.

- (c) A software interrupt is also known as _____.
- (d) A process created by the main process is called a _____.
- (e) _____ command is used to search pattern in file.

Group – B

(Short-answer Type Questions)

3. Answer any four questions in not more than 200 words each : $5 \times 4 = 20$

- (a) What is Kernel in operating system ? Explain.
- (b) Differentiate time sharing and real time system.
- (c) Define Operating System. Explain the functions of OS.
- (d) Write a shell script to find factorial of a given number.
- (e) Differentiate between multitasking and multiprocessing.
- (f) Explain FCFs with the help of an example.

i-2
fact-1

Group – C

(Long-answer Type Questions)

4. Answer any four questions of the following :

$$10 \times 4 = 40$$

(a) Write a shell script to reverse the digits of a given number.

(b) Write a shell script to check whether an inputted number is prime or not.

(c) Explain the following :

(i) Chmod

(ii) Grep

(iii) bc

(iv) Cat

(v) Banner

(vi) cp

(d) Define deadlock. Explain the four necessary condition to occur deadlock.

(e) Discuss the UNIX system architecture.

(f) Explain the following :

(i) Mutual Exclusion

(ii) Round Robin Scheduling

(iii) Multiprogramming



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Group – A

(Objective Type Questions)

1. Select the correct answer of the following :

$1 \times 5 = 5$

**(a) Which of the following is not the correct syntax
for creating a set ?**

- (i) Set ([[1, 2], [3, 4]])**
- (ii) Set ([1, 2, 2, 3, 4])**

(iii) Set ((1, 2, 3, 4))

(iv) {1, 2, 3, 4}

(b) What is the output when you execute list("hellow") ?

(i) ['h', 'e', 'l', 'l', 'o']

(ii) ['hellow']

(iii) ['llo']

(iv) ['olleh']

(c) In order to store value in term of key and value you use which core data type :

(i) List

(ii) Tuple

(iii) Class

(iv) Dictionary

(d) Who developed Python Programming Language ?

(i) Wick Van Rossum

(ii) Rasmus Lerdorf

(iii) Guido Van Rossum

(iv) Niene Stom

(e) What is the maximum possible length of an Identifier ?

- (i) 16
- (ii) 32
- (iii) 64
- (iv) None of these

2. Fill up the blanks : $1 \times 5 = 5$

- (a) _____ is the extension for Python.
- (b) The data type for 14.2 is _____.
- (c) _____ operator is used for division and discard the fractional part.
- (d) || is called _____.
- (e) Python is a _____ language.

Group – B

(Short-answer Type Questions)

3. Answer any four questions of the following :

$5 \times 4 = 20$

- (a) Differentiate between Java and Python.
- (b) Discuss built in data type in Python.

- (c) Write a Python code to check if given number is Armstrong number or not.
- (d) Differentiate between lists and tuples.
- (e) What are Python Modules ?
- (f) Explain Generator Vs Iterators.

Group - C

(Long-answer Type Questions)

4. Answer any four questions of the following :

$$10 \times 4 = 40$$

- (a) What are Python Strings ?
- (b) What is Module and Package in Python ?
- (c) Explain the exception handling in Python.
- (d) Explain the Programming Cycle for Python.
- (e) Write Python Program to replace Comma-Separated words with hyphens and print hyphen-separated word in Ascending order.
- (f) Write a program in Python to check whether a number is Plaindrome or not.

Patna Science College, Patna University

BCA PRACTICAL EXAMINATION

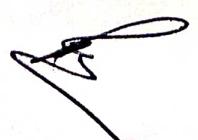
PAPER –PYTHON

PAPER CODE- CC -05 TIME-10:30 AM DATE 23-12-2023

TOTAL MARKS: 70

ANSWER ANY TWO QUESTION:-

1. Write a Python program to sum all the items in a list.
2. Write a Python script to check whether a given key already exists in a dictionary.
3. Write a program to check the given number is palindrome or not?



**B.C.A. SEM 3rd
GE-03(P), Statistics Practical Exam 2023**

Answer any two questions.

$$(M_2 - M_1^2)^2$$

Q1. Find the correlation coefficient between X and Y.

	1	2	3	4	5	6	7	8	9	10	11	12
X	159	179	100	45	384	230	100	320	80	220	320	210
Y	14.4	15.2	11.3	2.5	22.7	14.9	1.41	15.81	4.19	15.39	17.25	9.52

Q2. Calculate the first four moments about mean.

X	1	2	3	4	5	6	7	8	9
freq	1	6	13	25	30	22	9	5	2

Q3. Obtain the both two regression lines:

x	59	65	45	52	60	62	70	55	45	49
y	75	70	55	65	60	69	80	65	59	61

Q4. Assume that a firm has selected a random sample of 100 from its production line and has obtain the data show in the below table. Find the Mean and Variance.

C.I.	130-135	135-140	140-145	145-150	150-155	155-160	160-165
Frequency	3	12	21	28	19	12	5