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**B.C.A. (Semester - I) (New) (NEP CBCS) Examination:
March/April - 2026
Office Automation Tools (G10-GE-OE-101)**

Day & Date: Thursday, 23-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figure to the right indicate full marks.

Q.1 Choose the correct alternative.

06

- 1) Microsoft word is _____ software.
 - a) Application
 - b) Compiler
 - c) System
 - d) Programming
- 2) To print sheet in MS- Excel _____ short key is used.
 - a) CTRL + P
 - b) ENTER + P
 - c) SHIFT + P
 - d) ALT + P
- 3) Which feature is used to make selected sentences to All Capital Letters or All Small Letters?
 - a) Change Letter
 - b) Change Sentence
 - c) Change Case
 - d) Change Word
- 4) Superscript, subscript, strikethrough are known as _____.
 - a) Font Effects
 - b) Font Style
 - c) Font Face
 - d) Font Format
- 5) Which of the following is not a font style in MS-word?
 - a) Bold
 - b) Italic
 - c) Regular
 - d) Superscript
- 6) _____ shortcut key is used in MS-Word to paste text.
 - a) Ctrl + V
 - b) Alt + P
 - c) Shift + C
 - d) Ctrl + U

Q.2 Answer the following. (Any Three)

06

- a) What is Computer?
- b) Write shortcut keys of Cut, Copy and Paste.
- c) What are views of MS word?
- d) Explain the header and footer.
- e) How to inserting pictures, movies and table in power point slide?

- Q.3 Answer the following. (Any Two) 06**
- a) What is Chart? Explain steps of Creating charts in MS Excel.
 - b) What are the applications of computer?
 - c) Wrote on: Find and replace
- Q.4 Answer the following. (Any Two) 06**
- a) What are the characteristics of computer?
 - b) How to create presentation? Explain steps for creating presentation in PowerPoint.
 - c) What is spread sheet? Explain its applications.
- Q.5 Answer the following. (Any One) 06**
- a) Explain the block diagram of computer in detail.
 - b) What is mail merge? Write a step-by-step procedure creating mail merge in MS-Word.

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**B.C.A. (Semester - I) (New) (NEP CBCS) Examination:
March/April - 2026
English / English for Communication (ENG-101)**

Day & Date: Friday, 24-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options.

06

- 1) What is the primary purpose of communication?
 - a) To avoid interactions
 - b) To Share ideas, information and emotions
 - c) To create confusion
 - d) To maintain silence

- 2) What is a common barrier caused by environmental factors?

a) Language	b) Noise
c) Culture	d) Attitude

- 3) Which of the following is an example of written communication?

a) Speaking on the phone	b) Gesturing with hands
c) Sending on mail	d) Using facial expressions

- 4) What should you avoid during an interview?
 - a) Maintaining eye contact
 - b) Fidgeting or displaying nervous habit
 - c) Asking for clarification
 - d) Giving examples of your skills

- 5) What is the best approach if you don't understand a question?

a) Ignore it	b) Give a random answer
c) Ask for clarification	d) Change the subject

- 6) What role does body language play in group discussion?
 - a) It is irrelevant
 - b) It shows confidence and engagement
 - c) It distracts from conversation
 - d) It shows disinterest

Q.2 Write the answers to the following questions. (Any Two)

06

- a) Define communication and explain the components of communication.
- b) Write a note on DOs in an Interview
- c) What is group discussion?

Q.3 Answer any One of the following. 06

- a) Write a detail note on 7 Cs of communication with its importance
- b) Define an Interview with its crucial steps of preparation for interview.

Q.4 Write any one of the following. 12

- a) Discuss in detail on DOs and DON'Ts in group discussion.
- b) Write a script of an interview for the post of Senior Clerk in P.A.H. Solapur University, Solapur.

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B.C.A. (सत्र - I) (नवीन) (NEP CBCS) परीक्षा: मार्च/एप्रिल – २०२६
Constitution of India/Indian Constitution and Democracy
(ICD-101)

वार, दिनांक: शुक्रवार, २४-०४-२०२६
वेळ: दुपारी १२:०० ते ०१:३०

कमाल गुण: ३०

सूचना : १) सर्व प्रश्न अनिवार्य आहेत.
२) उजवीकडील अंक पूर्ण गुण दर्शवितात.

- प्र.१ अ) खालील दिलेले योग्य पर्याय निवडून गाळलेल्या जागा भरा. ०४**
- १) भारतीय घटना परिषदेचे अध्यक्ष ——— हे होते.
अ) पंडित जवाहरलाल नेहरू ब) सरदार वल्लभभाई पटेल
क) डॉ. बाबू राजेन्द्रप्रसाद ड) डॉ. जॉन मथाई
- २) भारताने ——— शासनपद्धती स्वीकारलेली आहे.
अ) संसदीय ब) अध्यक्षीय
क) संमिश्र ड) सर्वकष
- ३) भारत हे ——— राज्य आहे.
अ) धार्मिक ब) धर्मनिरपेक्ष
क) धर्मबाह्य ड) धर्माधिष्ठीत
- ४) भारतीय घटना मसुदा समितीचे अध्यक्ष ——— हे होते.
अ) पंडित जवाहरलाल नेहरू ब) सरदार वल्लभभाई पटेल
क) डॉ. बाबू राजेन्द्रप्रसाद ड) डॉ. बाबासाहेब आंबेडकर
- ब) चूक कि बरोबर ते लिहा. ०२**
- १) भारतीय राज्यघटनेनुसार २५ वर्षे पूर्ण झालेल्या सर्व नागरिकांना मतदानाचा अधिकार दिला आहे.
२) भारताने प्रत्यक्ष लोकशाहीची पद्धत स्वीकारलेली आहे.
- प्र.२ खालील प्रश्नाचे उत्तर लिहा. ०६**
- अ) धर्मनिरपेक्ष राज्य
ब) राज्यघटनेतील समता

- प्र.३ खालील प्रश्नाचे उत्तर लिहा. 0६
भारतीय निवडणूक आयोगाची रचना व अधिकार सांगा.
- प्र.४ खालील प्रश्नाचे उत्तर द्या. (कोणताही एक) 0६
अ) भारतीय राज्यघटनेच्या सरनाम्याचे स्वरूप व महत्त्व सांगा.
किंवा
ब) लोकशाहीची व्याख्या सांगून लोकशाहीचे प्रकार स्पष्ट करा.
- प्र.५ खालील प्रश्नाचे उत्तर द्या. (कोणताही एक) 0६
अ) भारतीय राज्यघटनेची प्रमुख वैशिष्ट्ये स्पष्ट करा.
किंवा
ब) भारतीय निवडणुका व मतदार जागृती कार्यक्रमावर भाष्य करा.

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**B.C.A. (Semester - I) (New) (NEP CBCS) Examination:
March/April – 2026**

Constitution of India/Indian Constitution and Democracy (ICD-101)

Day & Date: Friday, 24-04-2026
Time: 12:00 PM To 01:30 PM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 A) Choose the correct alternative from the options. 04

- 1) The Chairman of the Indian Constituent Assembly was _____.
 - a) Pandit Jawaharlal Nehru
 - b) Sardar Vallabhbhai Patel
 - c) Dr. Babu Rajendra Prasad
 - d) Dr. John Mathai

- 2) India has adopted the _____ system of government.
 - a) Parliamentary
 - b) Presidential
 - c) Mixed
 - d) Comprehensive

- 3) India is a _____ state.
 - a) Religious
 - b) Secular
 - c) Irreligious
 - d) Theocratic

- 4) The Chairman of the Drafting Committee of the Indian Constitution was _____.
 - a) Pandit Jawaharlal Nehru
 - b) Sardar Vallabhbhai Patel
 - c) Dr. Babu Rajendra Prasad
 - d) Dr. Babasaheb Ambedkar

B) True or False. 02

- 1) According to the Indian Constitution, all citizens who have completed 25 years of age have been given the right to vote.
- 2) India has adopted the system of direct democracy.

Q.2 Answer the following questions. 06

- a) Secular State
- b) Equality in the Constitution

Q.3 Answer the following questions. 06

Explain the structure and powers of the Election Commission of India.

Q.4 Attempt the following questions. (Any One) 06

a) Explain the nature and importance of the Preamble of the Indian Constitution.

OR

b) Define democracy and explain the types of democracy.

Q.5 Attempt the following questions. (Any One) 06

a) Explain the major features of the Indian Constitution.

OR

b) Write a note on Indian elections and voter awareness programmes.

- ६) खालीलपैकी — हे प्राचीन भारतीय रसायनशास्त्राचे योगदान नाही.
 अ) नैसर्गिक रंग व रंगरेषा ब) आधुनिक प्लास्टिक
 क) मातीची भांडी व कांचनिर्मिती ड) धातुकर्म

- प्र.२ खालील प्रश्नांची उत्तरे लिहा. (कोणतेही तीन) 0६
- अ) नालंदा विद्यापीठाच्या कोणत्याही दोन वैशिष्ट्यांची नोंद करा.
 ब) मातीची भांडी यासंबंधित भारतीय संकल्पनांबाबत लिहा.
 क) ज्ञान प्रसारात योगदान देणाऱ्या उल्लेखनीय माजी विद्यार्थ्यांची नावे लिहा.
 ड) पर्यावरणशास्त्र (Ecology) याची व्याख्या लिहा.
 इ) अवैदिक तत्त्वज्ञान प्रणाली म्हणजे काय?
- प्र.३ खालील प्रश्नांची उत्तरे लिहा. (कोणतेही दोन) 0६
- अ) भारतीय वैज्ञानिक परंपरांचे मूलभूत संकल्पना थोडक्यात समजावून सांगा.
 ब) शरीररचना व कार्यशास्त्र (Anatomy and Physiology) यावरील पारंपरिक दृष्टिकोन समजावून सांगा.
 क) प्रकाशाच्या रहस्यांशी संबंधित भारतीय संकल्पना स्पष्ट करा.
- प्र.४ खालील प्रश्नांची उत्तरे लिहा. (कोणतेही दोन) 0६
- अ) पर्यावरणीय शाश्वततेवर भारतातील पारंपरिक भर स्पष्ट करा.
 ब) वैदिक गणितावर थोडक्यात माहिती द्या.
 क) गणितीय व सांख्यिकी संकल्पनांमधील भारतीय मूळ स्पष्ट करा.
- प्र.५ खालील प्रश्नाचे उत्तर लिहा. (कोणताही एक) 0६
- अ) दैनंदिन जीवनातील रसायनशास्त्रातील भारतीय नवोपक्रम समजावून सांगा.
 ब) पर्यावरण संवर्धनासाठी प्राचीन भारतीय पद्धतींबाबत नोंद लिहा.

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**B.C.A. (Semester - I) (New) (NEP CBCS) Examination:
March/April – 2026
Indian Knowledge System/ General IKS (G10-IKS-101)**

Day & Date: Saturday, 25-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat diagrams and give necessary equations whenever necessary.

Q.1 Choose the correct alternative from the options.

06

- 1) _____ was considered sacred and protected in ancient Indian environmental practices.
 - a) Rivers and forests
 - b) Only animals
 - c) Only mountains
 - d) Only birds
- 2) IKS is described as _____.
 - a) a single, unified system of knowledge
 - b) a collection of diverse, traditional, knowledge systems
 - c) a-modern, scientific approach to knowledge
 - d) a spiritual practice unrelated to knowledge
- 3) The Indian Knowledge System is primarily derived from two types of traditions they are _____.
 - a) Western and Eastern
 - b) Vedic and Non-Vedic
 - c) Modern and Post-modern
 - d) Scientific and Literary
- 4) _____ ancient Indian university was famous for attracting international scholars, including those from China.
 - a) Vikramashila
 - b) Nālandā
 - c) Jagaddala
 - d) Ujjain
- 5) _____ among the following ancient Indian thinkers is associated with atomic theory.
 - a) Aryabhata
 - b) Kanada
 - c) Bhaskaracharya
 - d) Patanjali
- 6) _____ is not a contribution of ancient Indian chemistry.
 - a) Natural dyes and paints
 - b) Modern plastics
 - c) Pottery and glass-making
 - d) Metallurgy

- Q.2 Answer the Following. (Any Three) 06**
- a) Write any two characteristics of Nalanda.
 - b) Write about Indian concepts related to pottery.
 - c) Write names of notable alumni who contributed to the spread of knowledge.
 - d) Define Ecology.
 - e) What is non-Vedic philosophical systems?
- Q.3 Answer the following. (Any Two) 06**
- a) Describe in brief the Foundational concepts of Indian Scientific traditions.
 - b) Explain the traditional perspectives on Anatomy and physiology.
 - c) Explain the Indian concepts related to mystery of light.
- Q.4 Answer the following. (Any Two) 06**
- a) Explain India's traditional emphasis on environmental sustainability.
 - b) Brief note on Vedic Mathematics.
 - c) Explain the Indian origin in foundational mathematical and statistical concepts.
- Q.5 Answer the following. (Any One) 06**
- a) Explain Indian innovations in daily-life chemistry.
 - b) Write a note on Ancient practices that promote environmental stewardship.

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**B.C.A. (Semester - I) (New) (NEP CBCS) Examination:
March/April – 2026
Programming using C – I (G10-0101)**

Day & Date: Monday, 27-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options.

06

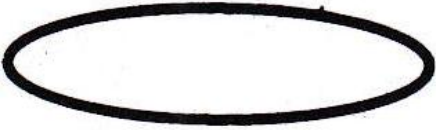
- 1) Which is a Ternary Operator?

a) ?:	b) *
c) sizeof	d) ^

- 2) How many keywords are available in 'C'?

a) 32	b) 34
c) 36	d) 30

- 3) The symbol denotes _____



a) I/O	b) Flow
c) Terminal	d) Decision

- 4) What is the characteristics of Algorithm?

a) Clear and Unambiguous	b) Well-Defined Inputs and outputs
c) Finite-ness	d) All of the above

- 5) Which of the following is not a valid C variable name?

a) int number;	b) float rate;
c) int variable_count;	d) int \$main;

- 6) What is the sizeof(char) in a 32-bit C compiler?

a) 1 bit	b) 2 bits
c) 1 Byte	d) 2 Bytes

Q.2 Answer the following. (Any Three)

06

- a) Explain identifier.
- b) Explain pseudo code.
- c) Define nested loop.
- d) Define keywords.
- e) Explain logical operator.

- Q.3 Answer the following. (Any Two) 06**
- a) History of C Language
 - b) Write algorithm of to print average of 5 subject marks.
 - c) Define if else statement.
- Q.4 Answer the following. (Any Two) 06**
- a) Explain types of logic.
 - b) Explain primitive data type.
 - c) Explain Program planning tool.
- Q.5 Answer the following. (Any One) 06**
- a) Explain operator with example.
 - b) Write a program to check a given number is Armstrong or not.

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**B.C.A. (Semester - I) (New) (NEP CBCS) Examination:
March/April - 2026
Python – I (G10-0102)**

Day & Date: Tuesday, 28-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternative.

06

- 1) Python code is executed by: _____.
 - a) Compiler
 - b) Interpreter
 - c) Assembler
 - d) None of the these
- 2) Which of the following is an immutable datatype in Python?
 - a) List
 - b) Dictionary
 - c) Tuple
 - d) Set
- 3) What is the correct file extension for Python files?
 - a) .pt
 - b) .py
 - c) .pyt
 - d) .exe
- 4) Which statement is used to terminate the loop immediately?
 - a) continue
 - b) break
 - c) pass
 - d) return
- 5) Which method is used to add an element to a set?
 - a) insert()
 - b) add()
 - c) append()
 - d) push()
- 6) Which keyword is used in Python to create function?
 - a) lambda
 - b) local
 - c) global
 - d) def

Q.2 Answer the following. (Any Three)

06

- a) Explain features of Python.
- b) What is the constants in Python?
- c) Write short notes on explicit type conversion.
- d) Explain if and else statement with example.
- e) Differentiate between list and tuple.

Q.3 Answer the following. (Any Two)

06

- a) Explain different operations on dictionary with example.
- b) Explain global variables with example.
- c) Describe advantages of arrays in Python.

Q.4 Answer the following. (Any Two) 06

- a) Explain list comprehension with example.
- b) Describe while loop with example.
- c) Explain the difference between function and method in Python.

Q.5 Answer the following. (Any One) 06

- a) Explain anonymous functions in Python with syntax and suitable example.
- b) Explain string operations in Python with suitable examples.

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**B.C.A. (Semester - I) (New) (NEP CBCS) Examination:
March/April - 2026
Basics of Mathematics (G10-0103)**

Day & Date: Wednesday, 29-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Multiple choice questions:

06

- 1) A relation with itself i.e (b,b) belongs to R is called _____.
 - a) reflexive
 - b) symmetric
 - c) transitive
 - d) poset
- 2) A matrix having only one column is called as _____.
 - a) row matrix
 - b) column matrix
 - c) null matrix
 - d) None of these
- 3) A matrix with not equal number of rows and columns is called _____.
 - a) square matrix
 - b) column matrix
 - c) rectangular matrix
 - d) None of these
- 4) Conjunction of two statement p and q are True the both the statements are _____.
 - a) false
 - b) true
 - c) both
 - d) None of these
- 5) $q \vee p =$ _____.
 - a) $q \vee p$
 - b) $p \vee q$
 - c) $q \vee q$
 - d) None of these
- 6) If $A = \{1, 2, 3, \dots, 10\}$ then cardinality of a given set is _____.
 - a) 4
 - b) 6
 - c) 7
 - d) 10

Q.2 Solve the following. (Any Three)

06

- a) State both Distributive law of logic.
- b) Define Symmetric relation.
- c) Define Finite set with suitable example.
- d) Draw the truth table of $(q \rightarrow p) \vee q$.
- e) Definition simple statement of logic

Q.3 Solve the following. (Any Two) 06

- a) State and prove both De Morgan's law of logic by using truth table.
- b) Define Equivalence and partial ordering relation with suitable example.
- c) If $A = \begin{bmatrix} 4 & 6 \\ 3 & 5 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 2 \\ 4 & 4 \end{bmatrix}$ then find $A - B$ and $A + B$.

Q.4 Answer the following. (Any Two) 06

- a) Prove that Commutative law of logic.
- b) Define Finite and Infinite set with example.
- c) Write the converse, inverse and contrapositive of the following statement:
"If teacher is present then student attend the class"

Q.5 Answer any one of the following. 06

- a) Let $A = \{a, b, c\}$ and relation R on A is
 $R = \{(a, a), (a, b), (b, c), (a, c), (c, a), (c, b)\}$. Find transitive closure R^* by Warshall's algorithm and also find diagraph of R^* .
- b) State and prove both Associative law of logic by using truth table.

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**B.C.A. (Semester - I) (New) (NEP CBCS) Examination:
March/April – 2026
Descriptive Statistics (G10-0104)**

Day & Date: Wednesday, 29-04-2026
Time: 12:00 PM To 01:30 PM

Max. Marks: 30

- Instructions:** 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Use of any type of calculator is allowed.

Q.1 Choose the correct alternatives from the options. 06

- 1) To obtain the line of regression of Y on X the distances of the points from the line measured along _____.
 - a) X-axis
 - b) Y-axis
 - c) both (a) & (b)
 - d) None of these
- 2) The value of correlation coefficient always lies between _____.
 - a) 0 & 1
 - b) -1 & 1
 - c) -1 & 0
 - d) None of these
- 3) SRS method provides a representative sample, if population is _____.
 - a) heterogeneous
 - b) homogeneous
 - c) infinite
 - d) finite
- 4) In histogram the height of rectangle is equal to _____ of the class.
 - a) mid-point
 - b) lower limit
 - c) class frequency
 - d) upper limit
- 5) If a group of 10 students gets same marks that equal to 30, then S.D. of marks is _____.
 - a) 10
 - b) 20
 - c) 30
 - d) zero
- 6) Mean of four observations 12, 13, 14 & k is 12.5 then what is the value of k ?
 - a) 15
 - b) 14
 - c) 11
 - d) 50

Q.2 Answer the following. (Any Three) 06

- a) Define population with illustration.
- b) Define class frequency.
- c) State any two requirements of good measure of central tendency.
- d) If two regression coefficients are -0.2 & -0.8 then find correlation coefficient.
- e) If $n = 10, \sum x = 50, \sum x^2 = 440$ then find variance of x .

Q.3 Write Short Answer. (Any Two) **06**

- a) Distinguish between absolute & relative measure of dispersion.
- b) Explain positive & negative correlation.
- c) Explain simple random sampling with replacement.

Q.4 Answer any two of the following. **06**

- a) Find median for the following data:

X	1	2	3	4	5
f	2	5	10	3	1

- b) If $n = 10$, $\sum x = 40$, $\sum x^2 = 500$ then find C.V.
- c) If A.M. of X is 10, A.M. of Y is 15, regression coefficient of X on Y & Y on X are 0.6 & 0.25 respectively then find regression line of Y on X .

Q.5 Answer any one of the following. **06**

- a) Derive the line of regression of X on Y by using least square method.
- b) Draw less than ogive for the following frequency distribution & hence Find median.

Classes	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	3	16	25	11	6	3	1

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**B.C.A. (Semester - II) (NEP CBCS) Examination:
March/April – 2026
Basics of Software Engineering (G10-GE-OE-201)**

Day & Date: Monday, 20-04-2026
Time: 03:00 PM To 04:30 PM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives. (MCQ)

06

- 1) DFD is _____.
 - a) Data Flow Diagram
 - b) Design Flow Diagram
 - c) Both of them
 - d) None of them

- 2) What is the first step in the software development lifecycle?
 - a) System Design
 - b) Coding
 - c) System Testing
 - d) Preliminary Investigation and Analysis

- 3) What does SDLC stand for?
 - a) Software Development Life Cycle
 - b) Software Developer Life Cycles
 - c) Both of them
 - d) None of them

- 4) Model selection is based on _____.
 - a) Requirements
 - b) Development team & users
 - c) Project type & associated risk
 - d) All of the above

- 5) Which of the following word correctly summarized the importance of software design?
 - a) Quality
 - b) Complexity
 - c) Efficiency
 - d) Accuracy

- 6) Software maintenance costs are expensive in contrast to software development.
 - a) True
 - b) False

- Q.2 Answer the following. (Any Three) 06**
- a) Define Software Engineering.
 - b) What are qualities of software?
 - c) Define DFD.
 - d) What is decision tree?
 - e) Define verification.
- Q.3 Answer the following. (Any Two) 06**
- a) Explain data dictionary with example.
 - b) Design DFD of employee management system.
 - c) Explain incremental model in detail.
- Q.4 Answer the following (Any Two) 06**
- a) Explain decision table and decision tree with example.
 - b) Explain input output design with example.
 - c) Explain fact finding techniques with their types.
- Q.5 Answer the following (Any One) 06**
- a) Explain ERD with example.
 - b) What is estimation? Explain types of estimation in detail.

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B.C.A. (Semester - II) (NEP CBCS) Examination: March/April – 2026
English/English for communication (ENG-201)

Day & Date: Tuesday, 21-04-2026
 Time: 03:00 PM To 04:30 PM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
 2) Figure to the right indicate full marks.

Q.1 Choose the correct alternatives from the following. 06

- 1) _____ skill helps improve communication.
 - a) Ignoring details
 - b) Active Listening
 - c) Speaking continuously
 - d) Multitasking

- 2) _____ is NOT a type of formal writing.
 - a) Formal letters
 - b) Newspaper reports
 - c) Personal diary entries
 - d) E-mails

- 3) _____ is the first step in the listening process.
 - a) Responding
 - b) Evaluating
 - c) Receiving
 - d) Remembering

- 4) _____ type of letter is used to make a complaint.
 - a) Personal letter
 - b) Complaint letter
 - c) Invitation letter
 - d) Informal letter

- 5) _____ type of listening helps in learning.
 - a) Selective
 - b) Comprehensive
 - c) Appreciative
 - d) Discriminative

- 6) _____ is the first element of a newspaper report.
 - a) Conclusion
 - b) Headline
 - c) Supporting details
 - d) Salutation

Q.2 Answer the questions in brief. (Any Two) 06

- a) What is the importance of listening in communication?
- b) What is a formal letter? Write the parts of a formal letter.
- c) Write the difference between hearing and listening.
- d) What is a news report? Explain its format.

Q.3 Write Short answer. (Any One) 06

- a) Define listening and the process of listening.
- b) What is tone in English? Write types of tone with examples.

Q.4 Answer the following. (Any One)

12

- a)** What is E-mail writing? Write its parts and types. Then, write a job application E-mail for the post of Software Developer at M. S. Company, Pune Road, Solapur.

OR

- b)** What is blog writing? Write its parts and types. Write a blog on the title: 10 Effective Time Management Tips for Students.

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**B.C.A. (Semester - II) (NEP CBCS) Examination:
March/April – 2026
Environmental studies (ENS-24)**

Day & Date: Wednesday, 22-04-2026
Time: 03:00 PM To 04:30 PM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figure to the right indicate full marks.

Q.1 Choose the correct alternatives. (MCQ'S)

06

- 1) Which of the following is NOT a component of ESG?
 - a) Environmental
 - b) Social
 - c) Geographical
 - d) Governance
- 2) Which of the following is a major cause of soil pollution?
 - a) Industrial effluents
 - b) Solar radiation
 - c) Noise from vehicles
 - d) Wind erosion
- 3) Which of the following is an example of in-situ conservation?
 - a) Botanical gardens
 - b) Zoological parks
 - c) National parks
 - d) Seed banks
- 4) Which of the following is a non-renewable source of energy?
 - a) Solar energy
 - b) Wind energy
 - c) Natural gas
 - d) Tidal energy
- 5) Desertification is mainly caused by _____.
 - a) Plantation of trees
 - b) Sustainable agriculture
 - c) Overgrazing and deforestation
 - d) Crop rotation
- 6) Which of the following is an objective of NCAP?
 - a) Promote deforestation
 - b) Reduce air pollution in urban areas
 - c) Increase fossil fuel use
 - d) Ignore climate-related issues

Q.2 Answer the following. (Any Three)

06

- a) Define sustainable development.
- b) Define bio-degradable waste with their examples.
- c) What is biological invasion?
- d) What is ecological succession?

- Q.3 Answer the following. (Any Two) 06**
- a) Explain the importance of environmental studies.
 - b) Write a short note on desert ecosystem.
 - c) What are the difference between In-situ & Ex-situ conservation?
- Q.4 Answer the following. (Any Two) 06**
- a) Differentiate between a food chain & food web.
 - b) Write impacts of dam building on forest & tribal population.
 - c) Describe Ozone layer depletion.
- Q.5 Answer the following. (Any One) 06**
- a) Describe the causes & control measures of air pollution.
 - b) Explain causes & effects of climate change on environment.

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**B.C.A. (सत्र - II) (NEP CBCS) परीक्षा: मार्च / एप्रिल - २०२६
NSS (CC-201)**

वार, दिनांक: गुरुवार, २३-०४-२०२६
वेळ: दुपारी ०३:०० ते ०४:३०

कमाल गुण: ३०

सूचना : १) सर्व प्रश्न अनिवार्य आहेत.
२) उजवीकडील अंक पूर्ण गुण दर्शवितात.

- प्र.१ खालील दिलेले योग्य पर्याय निवडून गाळलेल्या जागा भरा. ०६
- १) राष्ट्रीय सेवा योजनेचा मुख्य उद्देश विद्यार्थ्यांमध्ये — गुण विकसित करणे आहे.
अ) स्वार्थीपणा
ब) राजकीय नेतृत्व
क) व्यवसाय कौशल्य
ड) सामाजिक जबाबदारी
- २) राष्ट्रीय सेवा योजना विशेष शिबिराचा मुख्य उद्देश — हा आहे.
अ) मनोरंजन
ब) समाजसेवा
क) क्रीडा स्पर्धा
ड) औद्योगिक प्रशिक्षण
- ३) राष्ट्रीय सेवा योजना स्वयंसेवक नियमित उपक्रमांमध्ये वर्षाला साधारण — तास सेवा देतात.
अ) ६० तास
ब) ९० तास
क) १२० तास
ड) १५० तास
- ४) स्वच्छता मोहीम प्रामुख्याने — गोष्टीशी संबंधित आहे.
अ) सांस्कृतिक विकास
ब) पर्यावरण व आरोग्य सुधारणा
क) पर्यटन विकास
ड) आर्थिक विकास
- ५) राष्ट्रीय सेवा योजना राष्ट्रीय एकात्मता — द्वारे वाढवते.
अ) समाजसेवा व लोकसहभाग
ब) व्यवसाय प्रशिक्षण
क) राजकीय प्रचार
ड) परदेश दौरे
- ६) प्राथमिक उपचार प्रशिक्षणाचा उद्देश — हा आहे.
अ) सांस्कृतिक कार्यक्रम
ब) क्रीडा आयोजन
क) आर्थिक व्यवस्थापन
ड) तात्काळ वैद्यकीय मदत देणे

- प्र.२ खालील प्रश्नांची थोडक्यात उत्तरे लिहा. (कोणतेही दोन) 0६
- अ) राष्ट्रीय सेवा योजनेचे ब्रीदवाक्य लिहा व त्याचा अर्थ स्पष्ट करा.
ब) राष्ट्रीय सेवा योजनेची उद्दिष्टे लिहा.
क) आरोग्य व रक्तदान शिबीर याबाबत थोडक्यात लिहा.
ड) मतदान जनजागृती मध्ये राष्ट्रीय सेवा योजनेची भूमिका स्पष्ट करा.
- प्र.३ खालील प्रश्नाचे थोडक्यात उत्तर लिहा. (कोणताही एक) 0६
- अ) वृक्षरोपण व स्वच्छता मोहीमेचे महत्त्व स्पष्ट करा.
ब) महिला सक्षमीकरणामध्ये राष्ट्रीय सेवा योजनेची भूमिका स्पष्ट करा.
- प्र.४ खालील प्रश्नाचे सविस्तर उत्तर लिहा. (कोणताही एक) १२
- अ) राष्ट्रीय सेवा योजनेची संघटनात्मक रचना व कार्ये स्पष्ट करा.
ब) विद्यार्थ्यांमध्ये नेतृत्वगुण विकसित करण्यासाठी विशेष शिबीर कार्यक्रमाचे महत्त्व स्पष्ट करा.

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**B.C.A. (Semester-II) (NEP CBCS) Examination:
March/April – 2026
NSS (CC-201)**

Day & Date: Thursday, 23-04-2026
Time: 03:00 PM To 04:30 PM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternative.

06

- 1) NSS aims to develop _____ among students.
 - a) Selfishness
 - b) Political leadership
 - c) Business skills
 - d) Social responsibility

- 2) The main focus of NSS Special Camp is _____.
 - a) Entertainment
 - b) Community service
 - c) Sports competition
 - d) Industrial training

- 3) NSS volunteers generally work for _____ hours in regular activities per year.
 - a) 60 hours
 - b) 90 hours
 - c) 120 hours
 - d) 150 hours

- 4) Cleanliness drives are mainly related to _____.
 - a) Cultural development
 - b) Environmental and health improvement
 - c) Tourism development
 - d) Economic growth

- 5) NSS promotes national integration through _____.
 - a) Social service and community participation
 - b) Business training
 - c) Political campaigns
 - d) Foreign tours

- 6) First aid training helps volunteers to _____.
 - a) Provide immediate medical help
 - b) Conduct sports
 - c) Manage finances
 - d) Organize cultural events

- Q.2 Write short answers. (Any Two) 06**
- a) Write the motto of NSS and explain its meaning.
 - b) Write the objectives of National Service Scheme.
 - c) Explain in brief health and blood donation camp.
 - d) Write the role and responsibility of NSS volunteer in voter awareness.
- Q.3 Write Short Answer. (Any One) 06**
- a) Write the importance tree plantation and cleanliness drive.
 - b) Write the role of NSS in woman empowerment.
- Q.4 Answer the following question in detail. (Any One) 12**
- a) Explain in brief organizational structure and role of NSS.
 - b) Explain the role of special camp of NSS to develop leadership in volunteer.

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**B.C.A. (Semester - II) (NEP CBCS) Examination:
March/April – 2026
Sports (CC-203)**

Day & Date: Thursday, 23-04-2026
Time: 03:00 PM To 04:00 PM

Max. Marks: 15

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternative from the options. 04

- 1) Sports help students develop _____ qualities.
 - a) Teamwork
 - b) Discipline
 - c) Sportsmanship
 - d) All of the above

- 2) Football is a _____ type of sport.
 - a) Individual
 - b) Team
 - c) Racket
 - d) Combat

- 3) The need for sports in human life is for _____.
 - a) Waste of time
 - b) Only for weight loss
 - c) Overall development and health
 - d) Only entertainment

- 4) The definition of sports explains _____ things.
 - a) Only entertainment
 - b) Physical movement and skill
 - c) Rest
 - d) Only competition

Q.2 Write short notes. (Any Three) 06

- a) Importance of Sports
- b) Team Sports
- c) 100 Meter Running
- d) Concept on Sports

Q.3 Answer the following question in detail. (Any One) 05

- a) Explain the difference between Team Sports and individual Sports with examples.
- b) Define Sports and write a detailed note on the History of sports.

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**B.C.A. (Semester - II) (NEP CBCS) Examination: March/April – 2026
Programming using C – II (G10-0201)**

Day & Date: Friday, 24-04-2026
Time: 03:00 PM To 04:30 PM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternative. 06

- 1) The value obtained in the function is given back to main by using _____ keyword.

a) return	b) static
c) new	d) volatile

- 2) Which of the following is a correct format for declaration of function?
 - a) return-type function-name(argument type);
 - b) return-type function-name(argument type){}
 - c) return-type (argument type)function-name;
 - d) all of the mentioned

- 3) A Pointer is variable that store _____ of another variable.

a) Value	b) Address
c) Name	d) All of these

- 4) Which of the following is an address operator?

a) *	b) #
c) &	d) @

- 5) Which of the following true about FILE *fp?
 - a) FILE is a keyword in C for representing files and fp is a variable of FILE type
 - b) FILE is a stream
 - c) FILE is a buffered stream
 - d) FILE is a structure and fp is a pointer to the structure of FILE type

- 6) Which of the following mode argument is used to truncate?

a) a	b) W
c) f	d) t

Q.2 Answer the following. (Any Three) 06

- a) What is function?
- b) What is pointer?
- c) What is recursion?
- d) Explain local variable with example.
- e) Explain different types of mode in file handling.

- Q.3 Answer the following. (Any Two) 06**
- a) Write a program to swap two numbers using a function.
 - b) Types of macros
 - c) Auto storage classes
- Q.4 Answer the following. (Any Two) 06**
- a) Write the difference between call by value and call by reference.
 - b) Write a C program to find the length of a string using pointers.
 - c) Write a program to check if a given number is even or odd using the function.
- Q.5 Answer the following. (Any One) 06**
- a) Explain different four types of user defined functions with suitable example.
 - b) Write a program to create structure of student information with appropriate data members.

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**B.C.A. (Semester - II) (NEP CBCS) Examination:
March/April – 2026
Python – II (G10-0202)**

Day & Date: Saturday, 25-04-2026
Time: 03:00 PM To 04:30 PM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives. (MCQ)

06

- 1) _____ is used to create an object.
 - a) Class
 - b) Constructor
 - c) User-defined functions
 - d) In-built functions

- 2) To open a file c:\scores.txt for reading, we use _____.
 - a) infile = open("c:\scores.txt", "r")
 - b) infile = open("c:\\scores.txt", "r")
 - c) infile = open(file = "c:\scores.txt". "r")
 - d) infile = open(file = "c:\\scores.txt", "r")

- 3) What is Instantiation in terms of OOP terminology?
 - a) Deleting an instance of class
 - b) Modifying an instance of class
 - c) Copying an instance of class
 - d) Creating an instance of class

- 4) How many except statements can a try-except block have?
 - a) zero
 - b) one
 - c) more than one
 - d) more than zero

- 5) What is returned by math.ceil(3.4)?
 - a) 3
 - b) 4
 - c) 4.0
 - d) 3.0

- 6) Which of the following is not a type of inheritance?
 - a) Double-level
 - b) Multi-level
 - b) Single-level
 - d) Multiple

Q.2 Answer the following. (Any Three)

06

- a) Define Thread.
- b) Definition of class.
- c) Define Module.
- d) Explain Try block.
- e) Define seek().

- Q.3 Answer the following. (Any Two) 06**
- a) Explain `_init_` method.
 - b) Explain file opening modes.
 - c) Explain Multithread.
- Q.4 Answer the following. (Any Two) 06**
- a) Define Math Module with example.
 - b) Write a program to demonstrate Multilevel Inheritance.
 - c) Explain types of variables.
- Q.5 Answer the following (Any One) 06**
- a) Explain OOP Features.
 - b) Explain User defined function with example in detail.

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B.C.A. (Semester - II) (NEP CBCS) Examination: March/April - 2026
Numerical Mathematics (G10-0203)

Day & Date: Monday, 27-04-2026
 Time: 03:00 PM To 04:30 PM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
 2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options. 06

- 1) While doing the Division of two numbers in normalized floating point the exponents should be _____.
 - a) added
 - b) subtracted
 - c) divided
 - d) multiplied

- 2) If the data is equally spaced and interpolation is near the end of the data then _____ interpolation formula is used.
 - a) Newton's Forward Difference
 - b) Newton's Backward Difference
 - c) Newton's Divided Difference
 - d) Lagrange's

- 3) Eulers method to solve _____ equation.
 - a) linear
 - b) O.D.E.
 - c) transcendental
 - d) None of these

- 4) Put $n =$ _____ in general quadrature formula we get Simpsons $3/8^{\text{th}}$ rule.
 - a) 0
 - b) 1
 - c) 2
 - d) 3

- 5) Δ is a _____ operator.
 - a) Backward difference
 - b) Forward difference
 - c) Divide difference
 - d) None of these

- 6) $0.3456E4 \times 0.2312E - 2 =$ _____.
 - a) $0.0799E2$
 - b) $0.0799E - 2$
 - c) $0.799E2$
 - d) None of these

Q.2 Answer the following. (Any Three) 06

- a) Prepare the forward difference table for following data:

x	2	4	6	8	10
$f(x)$	15	19	37	57	70

- b) Write General quadrature formula.
 c) Write Runge-Kutta IInd order formula.

- d) Write Simpsons $1/3^{\text{rd}}$ rule.
- e) Evaluate: $0.5247 E_6 \times 0.6930 E_{-10}$

Q.3 Answer the following. (Any Two)

06

- a) By using Newtons forward difference interpolation Estimate Sale of the year 1999.

X	1994	1996	1998	2000
Y	43	48	52	57

- b) Evaluate
 - i) $1.4586E_{15} \times 7.3254E_{15}$
 - ii) $1.215E_{-4} \div 4.5263E_{-4}$
- c) Write the formulas for Runge-Kutta 4th order method.

Q.4 Answer the following. (Any Two)

06

- a) Define absolute error, relative error & percentage error.
- b) If $f(1) = 5, f(2) = 11, f(5) = 29$, Then find $f(4)$ by Lagrange's interpolation formula.
- c) By using Eulers method, estimate $Y(0.4), dy/dx = xy, y(0) = 1$ use $h = 0.1$.

Q.5 Answer the following. (Any One)

06

- a) Estimate $f(12)$ by Newton's Backward difference interpolation formula using following data

x	10	15	20	25
F(x)	14	18	28	42

- b) Evaluate $\int_0^{10} \frac{1}{1+x} dx$ by using Simpsons $3/8^{\text{rd}}$ rule, take $h = 1$.

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**B.C.A. (Semester - II) (NEP CBCS) Examination: March/April - 2026
Probability Theory (G10-0204)**

Day & Date: Monday, 27-04-2026
Time: 03:00 PM To 04:30 PM

Max. Marks: 30

- Instructions:** 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Use of calculator is allowed.

Q.1 Choose the correct alternatives from the options.

06

- 1) In _____ order of arrangement is important.
 - a) permutations
 - b) combinations
 - c) Both a and b
 - d) None of these

- 2) _____ experiment is known as random experiment.
 - a) Deterministic
 - b) Non-deterministic
 - c) Non-probabilistic
 - d) None of these

- 3) If A and B are independent events with $P(A) = 0.3$, $P(B) = 0.4$, then $P(A \cap B) =$ _____.
 - a) 0.1
 - b) 0.12
 - c) 0.7
 - d) 0.13

- 4) A discrete r.v. X has mean = variance always, the distribution of is _____.
 - a) Binomial
 - b) Poisson
 - c) Uniform
 - d) Normal

- 5) If $X \rightarrow B(10, 0.4)$ then $E(X) =$ _____.
 - a) 4
 - b) 6
 - c) 2.4
 - d) 3.4

- 6) A continuous r.v. X has $E(X) = 2$, $E(X^2) = 40$ then s.d. of X is _____.
 - a) 2
 - b) 38
 - c) 6
 - d) 36

Q.2 Answer the following. (Any Three)

06

- a) Define exhaustive events.
- b) Define Binomial Distribution.
- c) Find n if ${}^{n+1}C_4 = {}^nP_3$
- d) Given $P(A) = 0.6$, $P(B) = 0.4$, $P(A \cap B) = 0.3$ find $P(A \cup B)$.
- e) If $X \rightarrow B(10, 0.4)$ find $P(X = 2)$.

Q.3 Attempt the following. (Any Two) 06

- Prove That $P(\bar{A}) = 1 - P(A)$.
- In how many ways 5 English, 6 Marathi and 4 Computer books be arranged in a shelf so that all books of same subject are together?
- The p.m.f. of discrete r.v. X is as follows, find k and hence $P(X > 3)$

X	1	2	3	4	5
$P(x)$	0.1	0.2	0.15	0.25	k

Q.4 Answer the following. (Any Two) 06

- If X and Y be independent r.v.s. with $N(5,10)$ and $N(4,12)$ distribution respectively. Find distribution of $U = 2X + 3Y + 10$
- State addition and multiplication laws of probability.
- Differentiate permutation and combination.

Q.5 Answer the following. (Any One) 06

- Define normal distribution and state its properties.
- Given $P(A/B) = 0.6, P(B/A) = 0.8, P(B) = 0.5$ Find $P(\bar{A}/\bar{B})$

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**B.C.A. (Semester - III) (New) (NEP CBCS) Examination:
March/April – 2026
Operating Systems (G10-GE-OE-0301)**

Day & Date: Thursday, 02-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternative from the options. 06

- 1) The operating system where fixed time slot is allocated to each active process is _____.
 - a) Time-sharing O.S
 - b) Batch O.S
 - c) Multiprogramming O.S
 - d) Real time O.S

- 2) The Time Interval between the submission and completion of the job is called _____.
 - a) Waiting time
 - b) Throughput
 - c) Turn-around time
 - d) Response time

- 3) _____ will provide the address of the next instruction that is to be executed by the current process.
 - a) CPU registers
 - b) Program counter
 - c) Process stack
 - d) Pipe

- 4) There is a guarantee that the critical tasks are completed in given amount of time is called as _____.
 - a) Real time systems
 - b) Soft real time system
 - c) Hard Real time systems
 - d) None of these

- 5) Which of the following are synchronization tool?
 - a) Semaphore
 - b) Thread
 - c) Socket
 - d) Pipe

- 6) The priority scheduling algorithm suffers by _____.
 - a) Aging
 - b) Deadlock
 - c) Starvation
 - d) All of these

Q.2 Answer the following questions. (Any Three) 06

- a) What is Multiprogramming Operating System?
- b) What is PCB?
- c) What is Race Conditions?
- d) What is the Multilevel Queue Scheduling?
- e) What is Deadlocks?

- Q.3 Answer the following questions. (Any Two) 06**
- a) What is Scheduling? Explain different Scheduling criteria.
 - b) Explain Distributed Operating System.
 - c) Explain Semaphore in process Synchronization.
- Q.4 Answer the following questions. (Any Two) 06**
- a) What is Process? Explain Process State with block diagram.
 - b) Explain Preemptive and Non-preemptive Scheduling Algorithms.
 - c) Explain the System call in the operating System.
- Q.5 Answer the following question. (Any One) 06**
- a) What is Process Synchronization? Explain Dining Philosopher Problem.
 - b) Explain Priority scheduling algorithm with example.

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**B.C.A. (Semester - III) (New) (NEP CBCS) Examination:
March/April- 2026
English (G10-ENG-301)**

Day & Date: Saturday, 04-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figure to the right indicate full marks.

Q.1 Choose the correct alternatives from the options.

06

- 1) What is the nationality of the poet Nissim Ezekiel?
 - a) American
 - b) Indian
 - c) British
 - d) African
- 2) What does the speaker forget during his speech?
 - a) Miss Pushpa's full name
 - b) His own name
 - c) Why Miss Pushpa is leaving
 - d) The poem's lines
- 3) What type of English expressions makes the poem humorous?
 - a) Complex vocabulary
 - b) Incorrect grammar and literal translations
 - c) Rhyming words
 - d) Use of slang
- 4) What is the profession of Dr. Raman in the story?
 - a) Surgeon
 - b) General Physician
 - c) Ayurvedic Doctor
 - d) Psychologist
- 5) What did the child want after getting lost?
 - a) Toys
 - b) Sweets
 - c) Balloons
 - d) Only his parents
- 6) What was the mood of the child at the beginning of the story?
 - a) Angry
 - b) Happy and excited
 - c) Fearful
 - d) Sad

Q.2 Write the answer the following questions. (Any Two)

06

- a) What message does Mulk Raj Anand convey through the story "The Lost Child"?
- b) What is the central idea or theme of the poem "On Killing a Tree"?
- c) What message does Shiv K. Kumar conveys through the poem "Pilgrimage"?

- d) How does the poet create humour in the poem? “Goodbye Party for Miss Pushpa T. S.”

Q.3 Answer the following. (Any One)

06

- a) What is the theme of the poem? “Goodbye Party for Miss Pushpa T. S.”
b) What role do the parents play in the story “The Lost Child”? How do they guide and control the child’s behavior?

Q.4 Write the following. (Any One)

12

- a) Describe the journey of the child to the fair. How did his emotions change from the beginning to the end of the story?

OR

- b) Describe the character of Dr. Raman in details.

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No.Set **P**

**B.C.A. (Semester - III) (New) (NEP CBCS) Examination:
March/April – 2026
Core Java (G10-DSC1-0301)**

Day & Date: Monday, 06-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figure to the right indicate full marks.

Q.1 Choose the correct alternatives. (MCQ)**06**

- 1) The package that contains classes for file handling in Java is _____.
 - a) java.io
 - b) java.file
 - c) java.util
 - d) java.sql
- 2) Which keyword is used to define a constant in Java?
 - a) const
 - b) constant
 - c) final
 - d) static
- 3) What will happen if you try to access an array element with an invalid index?
 - a) ArrayOverflowError
 - b) NullPointerException
 - c) ArrayIndexOutOfBoundsException
 - d) Compilation error
- 4) class implements an interface using the keyword _____.
 - a) extends
 - b) implements
 - c) inherits
 - d) import
- 5) Which of the following statements about method overloading is true?
 - a) Method overloading occurs only in different classes.
 - b) Method overloading is achieved by changing the method name.
 - c) Overloaded methods must have the same return type.
 - d) Method overloading allows multiple methods with the same name but different parameters.
- 6) What is the base class of all exceptions in Java?
 - a) Throwable
 - b) Exception
 - c) Error
 - d) RuntimeException

- Q.2 Answer the following. (Any Three) 06**
- a) What is Package?
 - b) Write the difference between String and StringBuffer class.
 - c) What is polymorphism?
 - d) Write Syntax to compile and execute java program.
 - e) List out operators in java.
- Q.3 Answer the following. (Any Two) 06**
- a) Write short note on String class.
 - b) Explain naming conventions in java.
 - c) Explain abstract class and abstract method in detail.
- Q.4 Answer the following. (Any Two) 06**
- a) What is inheritance? Explain multilevel inheritance with example.
 - b) What is Exception handling? Explain custom exception with example.
 - c) What is array? Explain jagged array.
- Q.5 Answer the following. (Any One) 06**
- a) Explain java FileWriter and FileReader class with program.
 - b) Explain different features of java.

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No.Set **P**

**B.C.A. (Semester - III) (New) (NEP CBCS) Examination:
March/April – 2026
Data Structures Using C - I (G10-DSC1-0302)**

Day & Date: Tuesday, 07-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives.**06**

- 1) The postfix expression for $(A + B) * C$ is _____.
 - a) $AB + C^*$
 - b) $A + BC^*$
 - c) $ABC +^*$
 - d) $AB^*C +$
- 2) Which type of queue allows insertion and deletion at both ends?
 - a) Linear queue
 - b) Circular queue
 - c) Deque
 - d) Priority queue
- 3) Linked list is considered as an example of _____ type of memory allocation.
 - a) Dynamic
 - b) Static
 - c) Compile time
 - d) Heap
- 4) In C, array indexing starts from _____.
 - a) 0
 - b) 1
 - c) -1
 - d) depends on compiler
- 5) Process of inserting an element in stack is called _____.
 - a) Create
 - b) Push
 - c) Evaluation
 - d) Pop
- 6) Which of the following is linear data structure?
 - a) Tree
 - b) Graph
 - c) Array
 - d) Hash table

Q.2 Answer the following. (Any Three)**06**

- a) What is data structure?
- b) State the applications of queue.
- c) What is time and space complexity?
- d) What is stack?
- e) What is node? Write the node structure of SLL.

Q.3 Answer the following. (Any Two)**06**

- a) What is the Difference between array and linked list?
- b) What is queue? Explain operations on queue.
- c) Write a program that finds the addition of matrices.

Q.4 Answer the following. (Any Two) 06

- a) What is array? Explain types of array.
- b) What is priority queue? Explain in detail.
- c) Write an algorithm to convert infix expression to prefix expression with example.

Q.5 Answer the following. (Any One) 06

- a) What are the types of linked list? Explain any type of linked list with example.
- b) Write a program to implement STACK using array and perform the following operations:
 - i) Push
 - ii) Pop
 - iii) Display
 - iv) Exit

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**B.C.A. (Semester - III) (New) (NEP CBCS) Examination:
March/April – 2026
Database Management Systems (G10-DSC2-0303)**

Day & Date: Wednesday, 08-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose correct alternatives. 06

- 1) _____ pseudocolumns is used to retrieve the next value from an Oracle sequence.
 - a) CURRENT_VALUE
 - b) NEXT_NUM
 - c) NEXTVAL
 - d) GET_NEXT

- 2) _____ is a top-down approach in which the entity's higher level can be divided into two lower sub-entities.
 - a) Aggregation
 - b) Generalization
 - c) Specialization
 - d) All of the above

- 3) _____ is correct CREATE INDEX Command.
 - a) INSERT INDEX index_name ON table_name;
 - b) INSERT INDEX index_name ON database_name;
 - c) CREATE INDEX index_name ON database_name;
 - d) CREATE INDEX index_name ON table_name;

- 4) An entity in A is associated with at most one entity in B, and an entity in B is associated with at most one entity in A. This is called as _____.
 - a) One-to-many
 - b) One-to-one
 - c) Many-to-many
 - d) Many-to-one

- 5) Foreign key is the one in which the _____ of one relation is referenced in another relation.
 - a) Foreign key
 - b) Primary key
 - c) References
 - d) Check constraint

- 6) _____ is used to define the structure of the relation, deleting relations And relating schemas.
 - a) DML (Data Manipulation Language)
 - b) DDL (Data Definition Language)
 - c) Query
 - d) Relational Schema

- Q.2 Answer the following. (Any Three) 06**
- a) What is Join?
 - b) Define order by clause with example.
 - c) What is the importance of data integrity?
 - d) Write down list of database users.
 - e) Define Entity.
- Q.3 Answer the following. (Any Two) 06**
- a) Explain Instances and Schema.
 - b) Explain 2-tier and 3-tier architecture.
 - c) What is sub query? Explain types of sub query with example.
- Q.4 Answer the following. (Any Two) 06**
- a) Explain any six date and time functions with example.
 - b) What is Attribute? Explain types of attribute with example.
 - c) Explain the Group by and having clause with example.
- Q.5 Answer the following. (Any One) 06**
- a) Explain Codd's 12-rules in detail.
 - b) Explain types of Join with example.

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**B.C.A. (Semester - III) (New) (NEP CBCS) Examination:
March/April – 2026
Advanced Python Programming (G10-DSC2-0304)**

Day & Date: Thursday, 09-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives.

06

- 1) _____ matches the start of the string.

a) '^'	b) '\$'
c) '.'	d) '?'

- 2) What is the purpose of type hinting in Python?
 - a) To enforce variable types at runtime
 - b) To document the expected data types for readability and tooling support
 - c) To speed up code execution
 - d) To automatically convert variable types

- 3) Which keyword is used to create a generator in Python?

a) return	b) yield
c) generate	d) async

- 4) Which magic method is called when you create an instance of a class?

a) __init__	b) __new__
c) __call__	d) __str__

- 5) Which method would you use to serialize a Python object to a JSON string?

a) json.dumps()	b) json.loads()
c) pickle.dumps()	d) pickle.loads()

- 6) Which of the following special characters matches a pattern only at the end of the string?

a) \B	b) \X
c) \Z	d) \A

Q.2 Answer the following. (Any Three)

06

- a) Explain lambda function.
- b) What is reduce()?
- c) What is JSON file?
- d) What is Map()?
- e) Explain search().

- Q.3 Answer the following. (Any Two) 06**
- a) Explain local, global and non-local in function.
 - b) Write a program for writing CSV file from dictionary.
 - c) Explain *args and **kwargs with example.
- Q.4 Answer the following. (Any Two) 06**
- a) Explain higher order function in detail.
 - b) What is Match object & explain its methods?
 - c) Explain itertools function in details.
- Q.5 Answer the following. (Any One) 06**
- a) Explain Serialization and deserialization with example.
 - b) What is deep copy and shallow copy explain with example?

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B.C.A. (सत्र - III) (नवीन) (NEP CBCS) परीक्षा: मार्च/एप्रिल - २०२६
Co-Curricular Course
National Service Scheme (G10-CC-301)

वार, दिनांक: शनिवार, ११-०४-२०२६
वेळ: सकाळी ०९:०० ते १०:३०

कमाल गुण: ३०

सूचना : १) सर्व प्रश्न अनिवार्य आहेत.
२) उजवीकडील अंक पूर्ण गुण दर्शवितात.

प्र.१ खालील दिलेले योग्य पर्याय निवडून गाळलेल्या जागा भरा.

०६

- १) स्वयंसेवा (Volunteerism) म्हणजे ---- .
अ) पगारी सेवा
ब) कोणत्याही मोबदल्याची अपेक्षा न करता सेवा
क) शासकीय काम
ड) व्यावसायिक क्रिया
- २) स्वयंसेवेचे एक महत्त्वाचे वैशिष्ट्य म्हणजे ----.
अ) स्वार्थ
ब) सामाजिक बांधिलकी
क) नफा मिळवणे
ड) स्पर्धा
- ३) प्रभावी संवाद म्हणजे ----.
अ) फक्त बोलणे
ब) फक्त लेखन
क) विचार व माहितीची देवाणघेवाण
ड) वाचन
- ४) धोरणात्मक नियोजन (Strategic Planning) ---- वर लक्ष केंद्रित करते.
अ) अनियमित निर्णय
ब) दीर्घकालीन उद्दिष्टे
क) तात्काळ कृती
ड) उद्दिष्टांकडे दुर्लक्ष
- ५) सामाजिक-आर्थिक सर्वेक्षण ---- संबंधित आहे.
अ) हवामान
ब) सामाजिक व आर्थिक स्थिती
क) क्रीडा
ड) वाहतूक
- ६) जनगणना किती कालावधीनंतर घेतली जाते?
अ) दरवर्षी
ब) ५ वर्षांनी
क) १० वर्षांनी
ड) दरमहा

- प्र.२ खालील प्रश्नांची उत्तरे लिहा. (कोणतेही दोन) 0६
- अ) सामाजिक-आर्थिक सर्वेक्षणावर टीप लिहा.
ब) संवादाचे प्रकार लिहा.
क) साक्षरता माहिती संकलनाकरिता प्रश्नावली तयार करा.
ड) नियोजनाचे महत्त्व व मर्यादा लिहा.
- प्र.३ खालील प्रश्नाचे थोडक्यात उत्तर लिहा. (कोणताही एक) 0६
- अ) मुलाखात पद्धतीची प्रक्रिया थोडक्यात स्पष्ट करा.
ब) अहवाल लेखन थोडक्यात स्पष्ट करा.
- प्र.४ खालील प्रश्नाचे सविस्तर उत्तर लिहा. (कोणताही एक) १२
- अ) कार्यक्रमाच्या यशस्वी अंमलबजावणीसाठी आवश्यक बाबी कोणत्या? स्पष्ट करा.
ब) स्वयंसेवेची संकल्पना, भारतातील आदर्श व्यक्तिमत्त्वे आणि प्रभावी स्वयंसेवेसाठी आवश्यक नेतृत्व गुण स्पष्ट करा.

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**B.C.A. (Semester - III) (New) (NEP CBCS) Examination:
March/April – 2026
Co-Curricular Course
National Service Scheme (G10-CC-301)**

Day & Date: Saturday, 11-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options. 06

- 1) Volunteerism refers to _____.
 - a) Paid service
 - b) Service without expectation of reward
 - c) Government work
 - d) Business activity
- 2) Key characteristic of volunteerism is _____.
 - a) Self interest
 - b) Social commitment
 - c) Profit motive
 - d) Competition
- 3) Effective communication means _____.
 - a) speaking only
 - b) writing only
 - c) exchange of ideas and information
 - d) reading
- 4) Strategic planning focuses on _____.
 - a) Random decision
 - b) Long term goals
 - c) Immediate action only
 - d) Ignoring objectives
- 5) Socio economic survey related to _____.
 - a) weather
 - b) social and economic condition
 - c) sports
 - d) transport
- 6) Census conducted every _____.
 - a) year
 - b) 5 years
 - c) 10 years
 - d) month

Q.2 Answer the following questions. (Any Two) 06

- a) Write a note on socio economic survey.
- b) Give the types of communication
- c) Design of Questionnaire to collect Literacy data.
- d) Write the importance and limitation of planning.

- Q.3 Write Short answer to questions. (Any One)** **06**
- a) Explain in brief process of interview method.
 - b) Explain in brief report writing.
- Q.4 Broad Question. (Any One)** **12**
- a) What are the requirements of successful implementation of Programmes.
 - b) Explain the concept of volunteerism, role models in India, and leadership attributes required for effective volunteering.

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**B.C.A. (Semester - III) (New) (NEP CBCS) Examination:
March/April – 2026
Co-Curricular Course
National Cadet Corps (G10-CC-302)**

Day & Date: Saturday, 11-04-2026
Time: 09:00 AM To 10:00 AM

Max. Marks: 15

Instructions: 1) All questions are compulsory.
2) Right side number indicates marks.

Q.1 Choose the correct alternative from the options. 04

- 1) _____ is the highest civilian honor of India.

a) Bharat Ratna	b) Padma Vibhushan
c) Padma Shri	d) ParamVir Chakra

- 2) Tree plantation is a part of _____.

a) drill	b) weapon training
c) social service	d) None of these

- 3) _____ gave the slogan, 'Jai Jawan, Jai Kisan'.

a) Jawaharlal Nehru	b) Mahatma Gandhi
c) Lal Bahadur Shastri	d) None of these

- 4) There are _____ NCC directorates in India.

a) 14	b) 15
c) 16	d) 17

Q.2 Attempt any two of the following questions. 04

- a) Write down the aims of social service.
- b) Write down the names of camps in NCC.
- c) In which year Swachh Bharat Abhiyan was established?

Q.3 Write a short note. 03

Qualities of an Ideal citizen

Q.4 Describe the social services activity done in NCC. 04

OR

Describe the basic leadership traits.

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B.C.A. (सत्र - III) (नवीन) (NEP CBCS) परीक्षा: मार्च / एप्रिल - २०२६
Co-Curricular Course
Sports (G10-CC-303)

वार, दिनांक: शनिवार, ११-०४-२०२६
वेळ: सकाळी ०९:०० ते १०:००

कमाल गुण: १५

सूचना : १) सर्व प्रश्न अनिवार्य आहेत.
२) उजवीकडील अंक पूर्ण गुण दर्शवितात.

प्र.१ योग्य पर्याय निवडा.

०४

- १) अॅथलेटिक्स मध्ये ---- स्पर्धांचे प्रकार येतात.
 अ) धावणे
 ब) उड्या मारणे
 क) फेकणे
 ड) वरील सर्व
- २) ऑलिंपिक ध्वजाचे कापड ---- रंगाचे असते.
 अ) पिवळे
 ब) पांढरे
 क) आकाशी
 ड) गुलाबी
- ३) ४×१०० मीटर रिले स्पर्धामध्ये एका संघात ---- खेळाडू असतात.
 अ) तीन
 ब) चार
 क) पाच
 ड) सहा
- ४) ऑलिंपिक ध्वजातील पाच वर्तुळे ---- चे प्रतीक आहेत.
 अ) पाच क्रीडाप्रकार
 ब) पाच देश
 क) पाच खंड
 ड) पाच क्रीडा संघ

प्र.२ टिपा लिहा. (कोणत्याही तीन)

०६

- अ) गोळाफेक
- ब) स्प्रिंट (१००मी./२००मी. धावणे)
- क) ऑलिंपिक स्पर्धा
- ड) भालाफेक

प्र.३ खालील प्रश्नांची सविस्तर उत्तरे लिहा. (कोणताही एक)

०५

- अ) लांब उडी बदल माहिती लिहा.
- ब) ऑलिंपिक ध्वजाची आकृतीसह माहिती लिहा.

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**B.C.A. (Semester-III) (New) (NEP CBCS) Examination:
March/April - 2026
Co-Curricular Course
Sports (G10-CC-303)**

Day & Date: Saturday, 11-04-2026
Time: 09:00 AM To 10:00 AM

Max. Marks: 15

Instructions: 1) All questions are compulsory.
2) Right side number indicates marks.

Q.1 Multiple choice questions. 04

- 1) There are _____ types of competitions in athletics.
 - a) Running
 - b) Jumping
 - c) Throwing
 - d) All of above

- 2) The cloth of the Olympic flag is of _____ color.
 - a) Yellow
 - b) White
 - c) Sky Blue
 - d) Pink

- 3) In a 4 × 100 meter relay competition, a team consists of _____ players.
 - a) Three
 - b) Four
 - c) Five
 - d) Six

- 4) The five circles in the Olympic flag symbolize _____.
 - a) Five sports
 - b) Five countries
 - c) Five continents
 - d) Five sports teams

Q.2 Short Notes. (Any Three) 06

- a) Shot put
- b) Sprint (100m/200m run)
- c) Olympic competition
- d) Javelin throw

Q.3 Write the detail answer. (Any One) 05

- a) Write information about long jump.
- b) Write information with a diagram of the Olympic flag.

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B.C.A. (सत्र - III) (नवीन) (NEP CBCS) परीक्षा: मार्च/एप्रिल – २०२६
Co-Curricular Course
Health, Wellness and Fitness (G10-CC-304)

वार, दिनांक: शनिवार, ११-०४-२०२६
वेळ: सकाळी ०९:०० ते १०:००

कमाल गुण: १५

सूचना : १) सर्व प्रश्न अनिवार्य आहेत.
२) उजवीकडील अंक पूर्ण गुण दर्शवितात.

- प्र.१ योग्य पर्याय निवडून प्रश्नांची उत्तरे लिहा. ०४**
- १) खालीलपैकी कोणता घटक मानसिक आरोग्याचा भाग नाही?
अ) भावनिक स्वास्थ्य ब) बौद्धिक कार्यक्षमता
क) केसांचा रंग ड) सामाजिक संबंध
- २) कोणता घटक मानसिक आरोग्यावर नकारात्मक परिणाम करू शकतो?
अ) मजबूत सामाजिक आधार ब) दीर्घकालीन तणाव
क) नियमित व्यायाम ड) संतुलित आहार
- ३) खालीलपैकी कोणता मानसिक आरोग्य विकार आहे?
अ) मधुमेह ब) उच्च रक्तदाब
क) नैराश्य ड) दमा
- ४) फिटनेस ॲप्सचा मुख्य उद्देश काय असतो?
अ) आरोग्याचे निरीक्षण करणे ब) मोबाईलची बॅटरी वाढवणे
क) इंटरनेट स्पीड वाढवणे ड) गेम खेळणे
- प्र.२ खालील प्रश्नांची थोडक्यात उत्तरे लिहा. (कोणतेही तीन) ०६**
- अ) फिटनेस ॲप्स म्हणजे काय?
ब) ध्यान म्हणजे काय?
क) प्राथमिक उपचार म्हणजे काय?
ड) खोल श्वसन करण्याची एक पद्धत सांगा.
इ) मानसिक आरोग्य म्हणजे काय?
- प्र.३ खालील प्रश्नाचे सविस्तर उत्तर लिहा. (कोणताही एक) ०५**
- अ) तणाव म्हणजे काय? त्याची कारणे लिहा.
ब) व्यायाम करताना दुखापती होण्याची कारणे कोणती?

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**B.C.A. (Semester - III) (New) (NEP CBCS) Examination:
March/April – 2026
Co-Curricular Course
Health, Wellness and Fitness (G10-CC-304)**

Day & Date: Saturday, 11-04-2026
Time: 09:00 AM To 10:00 AM

Max. Marks: 15

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternative from the options. 04

- 1) Which of the following is not a part of mental health?

a) Emotional well-being	b) Intellectual efficiency
c) Hair color	d) Social relationships

- 2) Which factor can negatively affect mental health?

a) Strong social support	b) Chronic stress
c) Regular exercise	d) Balanced diet

- 3) Which of the following is a mental health disorder?

a) Diabetes	b) High blood pressure
c) Depression	d) Asthma

- 4) What is the main purpose of fitness apps?

a) To monitor health	b) To increase mobile battery life
c) To boost internet speed	d) To play games

Q.2 Write Short Answers. (Any Three) 06

- a) What are fitness apps?
- b) What is meditation?
- c) What is first aid?
- d) Name one method of deep breathing.
- e) What is mental health?

Q.3 Answer the following question in detail. (Any One) 05

- a) What is stress? Write its causes.
- b) What are the causes of injuries during exercise?

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**B.C.A. (Semester - III) (New) (NEP CBCS) Examination:
March/April – 2026
Co-Curricular Course
Yoga Education (G10-CC-305)**

Day & Date: Saturday, 11-04-2026
Time: 09:00 AM To 10:00 AM

Max. Marks: 15

Instructions: 1) All questions are compulsory.
2) Right side number indicates marks.

Q.1 Choose the correct alternative from the options. 04

- 1) International Yoga Day begins It's been _____ years.

a) 2015	b) 2016
c) 2017	d) 2018

- 2) _____ This person proposed Yoga Day at the United Nations.

a) Swami Vivekanand	b) Narendra Modi
c) A.P.J. Abdul Kalam	d) V.P. Chandrasekhar

- 3) _____ Countries supported the proposal for Yoga Day at the United Nations.

a) 177	b) 200
c) 202	d) 250

- 4) Explain the philosophical significance of the day 21st June.

a) Uttarayan → Dakshinayana	b) The biggest day of the year
c) Last day of the year	d) All of the above options They are right

Q.2 Write short answers to the following questions. 06

- a) Briefly explain the importance of yoga in today's stressful lifestyle?
- b) What is the meaning of stress?
- c) Write any two yoga possess that are useful for Stress Relief?

Q.3 Write the answers to the following questions. (Any One) 05

- a) Source of stress in modern life.
- b) Write the philosophical significance of June 21.

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**B.C.A. (Semester - IV) (New) (NEP CBCS) Examination:
March/April – 2026
Digital Marketing (G10-GE-OE-0401)**

Day & Date: Wednesday, 15-04-2026
Time: 12:00 PM To 01:30 PM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figure to the right indicate full marks.

Q.1 Choose the correct alternatives.

06

- 1) What does PPC stand for in Digital Advertising?
 - a) Pay Per Content
 - b) Pay Per Promotion
 - c) Pay Per Click
 - d) Print Per Conversion
- 2) What type of content works best for social media engagement?
 - a) Only infographics
 - b) Long text paragraphs
 - c) Short videos, GIFs and images
 - d) Unrelated memes
- 3) What is Google Analytics primarily used for?
 - a) Scheduling social media post
 - b) Managing email campaigns
 - c) Creating blog content
 - d) Tracking web site traffic and user behaviour
- 4) Which social media tool or feature is ideal for quick interactions and short lived engagement?
 - a) LinkedIn groups
 - b) Instagram stories
 - c) Pinterest Boards
 - d) Facebook Newsfeed
- 5) What is a "Call to Action" (CTA) in email marketing?
 - a) A subject line alternative
 - b) A line or text that encourages specific user actions
 - c) A design element
 - d) An email greeting
- 6) What does CPA stand for in affiliate marketing terms?
 - a) Content Promotion Agreement
 - b) Cost Per Action
 - c) Central Partner Association
 - d) Customer Purchase Agreement

- Q.2 Answer the following. (Any Three) 06**
- a) What is google adwords?
 - b) What is SEO?
 - c) List Website Traffic Analysis Tools.
 - d) What is tracking script in digital marketing?
 - e) What is pay per click?
- Q.3 Answer the following. (Any Two) 06**
- a) Difference between blog, website and portal.
 - b) Difference between On page SEO and Off page SEO.
 - c) Write short note on e-commerce marketing.
- Q.4 Answer the following. (Any Two) 06**
- a) Write short note on Google Analytics.
 - b) Write short note on role of social media in marketing.
 - c) Difference between traditional marketing and digital marketing.
- Q.5 Answer the following. (Any One) 06**
- a) Explain the difference bidding strategies used in digital marketing in brief.
 - b) Explain Pinterest Marketing, Instagram Marketing and Affiliate Marketing in brief.

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**B.C.A. (Semester - IV) (New) (NEP CBCS) Examination:
March/April - 2026
ENGLISH
Reading Texts in Indian English - II (G10-ENG-401)**

Day & Date: Thursday, 16-04-2026
Time: 12:00 PM To 01:30 PM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figure to the right indicate full marks.

Q.1 Choose the correct alternatives from the following.

06

- 1) The poem "Hunger" exposes the _____.
 - a) Beauty of Indian culture
 - b) strength of family bonds
 - c) Brutality of economic inequality
 - d) Joy of rural life

- 2) The rising sun brings a feeling of _____.
 - a) Fear
 - b) Laziness
 - c) loneliness
 - d) Energy and freshness

- 3) The "house" in the poem symbolizes _____.
 - a) wealth and security
 - b) Tradition and rituals
 - c) Lost roots and a vanished past
 - d) Social status

- 4) According to Abdul Kalam, unity of mind helps an individual to _____.
 - a) Gain material wealth
 - b) Achieve social status
 - c) Achieve excellence and inner strength
 - d) Escape responsibilities

- 5) Tagore criticizes nationalism because it _____.
 - a) Promotes education
 - b) Encourages unity
 - c) Suppresses humanity and moral freedom
 - d) Protects culture

- 6) Sudha Murthy became the first female engineer at which company?
 - a) Tata Engineering and Locomotive Company (TELCO)
 - b) Wipro
 - c) Infosys
 - d) Reliance

Q.2 Answer the following questions. (Any Two) 06

- a) Explain Tagore's concept of the nation.
- b) What message does Unity of Mind give to Indian youth?
- c) Explain the use of imagery in the poem, "The Right Image".
- d) What natural scene is described in the poem "Sunrise"?

Q.3 Write Short Answer. (Any One) 06

- a) Discuss the theme of hunger in Jayanta Mahapatra's poem "Hunger".
- b) Discuss how Dilip Chitre presents the theme of memory and loss in "The House of My Childhood".

Q.4 Answer the following questions. 12

- a) Explain how Sudha Murthy serves as an inspiration to women and youth in modern India.

OR

- b) According to Kalam, what are the obstacles to unity of mind in India?

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**B.C.A. (Semester - IV) (New) (NEP CBCS) Examination:
March/April – 2026
Advanced Java (G10-DSC1-0401)**

Day & Date: Friday, 17-04-2026
Time: 12:00 PM To 01:30 PM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose correct alternatives. 06

- 1) Which wrapper class is used to convert a primitive int into an object?
 - a) Integer
 - b) Int
 - c) Number
 - d) Long
- 2) Which collection does not allow duplicate elements?
 - a) List
 - b) Set
 - c) Map
 - d) Queue
- 3) Which method is used to start a thread?
 - a) run()
 - b) start()
 - c) execute()
 - d) init()
- 4) Which layout arranges components in rows and columns?
 - a) FlowLayout
 - b) BorderLayout
 - c) GridLayout
 - d) CardLayout
- 5) Which protocol is used for reliable data transfer?
 - a) UDP
 - b) HTTP
 - c) TCP
 - d) FTP
- 6) Which JDBC object is used to execute SQL queries?
 - a) Driver
 - b) Statement
 - c) Connection
 - d) ResultSet

Q.2 Answer the following. (Any Three) 06

- a) What is Collection Framework?
- b) What is multithreading?
- c) What is type casting? explain its types.
- d) What is event?
- e) Write Database Connectivity Steps.

Q.3 Answer the following. (Any Two) 06

- a) Write a program to handle NumberFormatException.
- b) Explain Thread Life cycle with example.
- c) Explain InetAddress and URLConnection classes.

Q.4 Answer the following (Any Two)**06**

- a)** Explain following Swing Components with example.
1. JButton
 2. JLabel
 3. JTextField
 4. JTextArea
 5. JCheckBox
 6. JRadioButton
- b)** Explain HashSet and TreeSet with example.
- c)** Write a Java program to create a thread by extending Thread class.

Q.5 Answer the following (Any One)**06**

- a)** Write a program to insert,update,delete,display student information from database.
- b)** What is Layout Manager? Explain BorderLayout, FlowLayout and GridLayout with examples.

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**B.C.A. (Semester - IV) (New) (NEP CBCS) Examination:
March/April – 2026
Data Structures Using C - II (G10-DSC1-0402)**

Day & Date: Saturday, 18-04-2026
Time: 12:00 PM To 01:30 PM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose correct alternatives. (MCQ) 06

- 1) The data structure required for Breadth First Traversal on a graph is?

a) Array	b) Stack
c) Tree	d) Queue
- 2) Which operation is fast in AVL tree?

a) Insert	b) Delete
c) Search	d) All of these
- 3) Which data structure is used for implementation of radix sort method?

a) Queue	b) Array
c) Stack	d) Hash
- 4) In binary expression tree, parent node is always _____.

a) operand	b) Operator
c) parenthesis	d) None of these
- 5) What is the traversal strategies used in the binary tree?

a) preorder	b) inorder
c) postorder	d) All of these
- 6) What is the number of edges present in a complete graph having n vertices?

a) $(n * (n + 1))/2$	b) $(n * (n - 1))/2$
c) n	d) Information given is insufficient

Q.2 Answer the following. (Any Three) 06

- a) What is sibling in case of binary tree?
- b) What is advantage of Sorting?
- c) What is Weighted directed graph?
- d) What is the importance of hash function?
- e) List of different applications of binary tree.

Q.3 Answer the following. (Any Two) 06

- a) Explain the process to add the node in binary search tree.
- b) Explain indexed sequential search in detail.
- c) Write an algorithm for insertion sort.

Q.4 Answer the following. (Any Two)**06**

- a) Sort the following data in ascending order using Bubble sort and show all passes

89 56 78 12 47 98 54 69 32 21

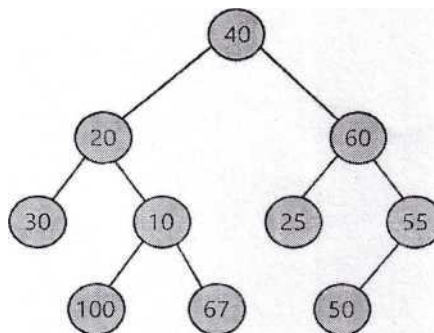
- b) Explain BFS traversal of graph with example.
c) What is Hashing? Explain any three hash functions in detail.

Q.5 Answer the following. (Any One)**06**

- a) Write a program to implement Binary Search tree with following operations.

- i) Insert node
- ii) Count_leaf()
- iii) Count_total()
- iv) inorder()

- b) What is binary Heap tree? List out characteristics of Min-heap and Max-heap tree. And convert following binary tree into Min-heap tree and Max-heap tree.



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**B.C.A. (Semester - IV) (New) (NEP CBCS) Examination:
March/April - 2026
Relational Database Management System (RDBMS)
(G10-DSC2-0403)**

Day & Date: Monday, 20-04-2026
Time: 12:00 PM To 01:30 PM

Max. Marks: 30

- Instructions:** 1) All questions are compulsory.
2) Figure to the right indicate full marks.
3) Draw neat labelled diagrams wherever necessary.

Q.1 Multiple choice question:

06

- 1) _____ Deadlock handling technique avoids deadlock by prevention.
 - a) Wait-for graph
 - b) Timestamp ordering
 - c) Rollback
 - d) Detection

- 2) A state where a transaction is waiting for the final statement to be executed is called _____.
 - a) Partially Committed
 - b) Active
 - c) Committed
 - d) Failed

- 3) _____ protocol is used to prevent the "Lost Update" problem by locking data items.
 - a) Timestamp-based
 - b) Log-based
 - c) Lock-based
 - d) Shadow Paging

- 4) In PL/SQL, _____ attribute is used to check if a cursor has fetched any rows.
 - a) %NOTFOUND
 - b) %ISOPEN
 - c) %ROWCOUNT
 - d) %TYPE

- 5) Which trigger fires once for each row affected by an SQL statement?
 - a) Statement-level
 - b) DDL Trigger
 - c) Row-level
 - d) Database Trigger

- 6) _____ Section of a PL/SQL block is used to handle runtime errors?
 - a) DECLARE
 - b) BEGIN
 - c) END
 - d) EXCEPTION

Q.2 Answer the questions in brief. (Any Three)

06

- a) Define a serializable schedule.
- b) What is a Deadlock?
- c) What the difference between IN and OUT parameters in Procedures.
- d) What is the purpose of a Save point in recovery?
- e) List any four advantages of using PL/SQL over standard SQL.

- Q.3 Attempt the following. (Any Two) 06**
- a) Explain Two-Phase Locking (2PL) protocol with its growing and shrinking phases.
 - b) Describe Query Optimization and the role of Heuristics.
 - c) What is a Package in PL/SQL? Distinguish between the Package Specification and Package Body.
- Q.4 Attempt the following. (Any Two) 06**
- a) Describe Log-based Recovery and how it uses the Undo and Redo operations.
 - b) Compare Implicit Cursors and Explicit Cursors with examples.
 - c) Describe the types of Exceptions in PL/SQL.
- Q.5 Attempt the following. (Any One) 06**
- a) What are Database Triggers? Write a PL/SQL trigger to prevent deletion from the Employee table during weekends (Saturday and Sunday).
 - b) Consider the following Sales Dataset and write PL/SQL code for the requirements below:
Table: Sales_Data (OrderID, Product, Quantity, Price_Per_Unit, SaleDate)
Create a Stored Procedure to calculate and display the Total Amount (Quantity * Price) for a specific OrderID.
 - c) Write a PL/SQL block using a Cursor to list all products where the Quantity sold is greater than 50.

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**B.C.A. (Semester - IV) (New) (NEP CBCS) Examination:
March/April – 2026
Software Testing and Quality Assurance (G10-DSC2-0404)**

Day & Date: Tuesday, 21-04-2026
Time: 12:00 PM To 01:30 PM

Max. Marks: 30

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose correct alternative. 06

- 1) Which testing ensures software meets user requirements?
 - a) Unit testing
 - b) System testing
 - c) Acceptance testing
 - d) Integration testing
- 2) Which is a static testing technique?
 - a) Path coverage
 - b) Inspection
 - c) Load testing
 - d) Regression testing
- 3) Error Guessing belongs to _____.
 - a) White box testing
 - b) Experience based testing
 - c) Automation testing
 - d) Performance testing
- 4) Which testing checks recover after failure?
 - a) Stress testing
 - b) Recovery testing
 - c) Smoke testing
 - d) Volume testing
- 5) Traceability Matrix is used to _____.
 - a) Track bugs
 - b) Map requirements with test cases
 - c) Execute test cases
 - d) Automate tests
- 6) Which tool is used for automation?
 - a) JIRA
 - b) Selenium
 - c) Bugzilla
 - d) LoadRunner

Q.2 Answer the following questions. (Any Three) 06

- a) Explain Alpha and Beta Testing.
- b) Define Test Case and mention its components.
- c) What is Smoke Testing?
- d) Explain Error and Defect.
- e) What is Test Plan?

Q.3 Answer the following questions. (Any Two) 06

- a) Explain functional Testing.
- b) Describe Integration Testing.
- c) Differentiate between white box testing and black box testing.

Q.4 Answer the following questions. (Any Two) 06

- a) Explain Performance Testing and its types.
- b) Write difference between automation testing and manual testing.
- c) Describe Defect life cycle.

Q.5 Answer the following question. (Any One) 06

- a) Explain White Box Testing techniques.
- b) Design test cases for Online Shopping Cart.