

Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND ECONOMICS
FARMAGUDI, PONDA-GOA

B.C.A. UGC-CCFUP (SEMESTER-I) REGULAR EXAMINATION, OCTOBER/NOVEMBER 2025
VAC-110 - AWARENESS OF CYBER CRIME AND SECURITY

Duration – 1 hour

Total Marks – 40

Q1) Answer the following

CO1 – BL1 (2×4 = 8 Marks)

1. Define *phishing* and give one real-world example.
2. What is a *keylogger* and how does it record user data?
3. List any two *types of internal cyber-attacks*.
4. Name two *factors* commonly used in *user authentication*.

Q2A) Answer the following

CO1 – BL1 (2×2 = 4 Marks)

1. Define & Differentiate between *cyberstalking* and *cyberbullying* with examples.
2. Explain how a *Denial-of-Service (DoS)* attack disrupts organizational services.

Q2B) Answer the following

CO1 – BL1 (2×2 = 4 Marks)

1. What is a *zero-day attack* and why is it difficult to prevent?
2. Define the components of the *CIA triad* and their significance in cybersecurity.

Q3A) Answer the following

CO1 – BL2 (2×2 = 4 Marks)

1. Discuss how you would secure a personal email account against phishing attempts.
2. Suggest two *preventive measures* to reduce *malware infections* in an organization.

Q3B) Answer the following

CO1 – BL2 (2×2 = 4 Marks)

1. Explain how *industrial espionage* can be minimized using appropriate cybersecurity controls.
2. Illustrate how a *firewall* acts as a protective barrier against external cyber-attacks.

OR

Q3C) Answer the following

CO1 – BL2 (2×2 = 4 Marks)

1. Show how *password sniffing* can be detected in a computer network.
2. Identify suitable *access control techniques* to prevent unauthorized access in a small business.

P.T.O.

Q4A) Answer the following **CO2 BL2 (2×2 = 4 Marks)**

Q4A) Answer the following **CO2 BL2 (2×2 = 4 Marks)**

1. Summarize the *risks and vulnerabilities* associated with *online banking fraud*.
2. Explain the *psychological and social impacts* of cybercrimes targeting *women and children*.

Q4B) Answer the following **CO2 – BL2 (2×2 = 4 Marks)**

Q4B) Answer the following **CO2 – BL2 (2×2 = 4 Marks)**

1. Discuss how *organizational security policies* help in preventing cybercrimes.
2. Explain how *software backdoors* can lead to *data breaches* and unauthorized access.

OR

Q4C) Answer the following **CO2 – BL2 (2×2 = 4 Marks)**

Q4C) Answer the following **CO2 – BL2 (2×2 = 4 Marks)**

1. Describe a *checklist* for identifying *phishing emails*.
2. Discuss how *social media-based crimes* can threaten organizational cybersecurity.

Q5A) Answer the following **CO3 – BL3 (2×2 = 4 Marks)**

Q5A) Answer the following **CO3 – BL3 (2×2 = 4 Marks)**

1. Discuss a *school-wide strategy* to prevent *cyberbullying* among students.
2. Propose *two effective methods* to protect *intellectual property* within an organization.

Q5B) Answer the following **CO2 – BL3 (2×2 = 4 Marks)**

Q5B) Answer the following **CO2 – BL3 (2×2 = 4 Marks)**

1. Explain how *data encryption* safeguards sensitive information.
2. Describe the *defense-in-depth* strategy to secure a *small business network*.

OR

Q5C) Answer the following **CO3 – BL3 (2×2 = 4 Marks)**

Q5C) Answer the following **CO3 – BL3 (2×2 = 4 Marks)**

1. Describe the *phases of a cyber-attack* on an organization.
2. Discuss a *mitigation plan* to defend against *DoS attacks*.

=====XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX=====

Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND ECONOMICS
FARMAGUDI, PONDA GOA
B.C.A. UGC-CCFUP (SEMESTER-I) REGULAR EXAMINATION OCTOBER/NOVEMBER 2025
AEC : ENG-151 - COMMUNICATIVE ENGLISH: SPOKEN AND WRITTEN

Time: 01 hour

Marks: 40

Instructions:

- i. *All questions are compulsory*
- ii. *CO indicates Course Outcome*
- iii. *BL indicates Blooms Taxonomy Level*
- iv. *Marks are mention at the right-hand side margin i.e. 1mark × 5questions= 5marks.*

Q1) Answer the following questions in not more than 50 words. (2x4=8)

- A)** State the importance of effective communication (2) (CO2, BL1)
- B)** Name the 4 Cs of effective communication. (2) (CO1, BL1)
- C)** What do you mean by Rebuttal? (2) (CO3, BL1)
- D)** What is a Cover letter? (2) (CO4, BL1)

Q2) Answer any two of the following questions in 80-100 words. (4x2=8)

- A) i)** Interpret what do you mean by intonation. (4) (CO1, BL2)
- ii) Contrast the advantages and disadvantages of written communication. (4) (CO3, BL2)

OR

- B) i)** Classify any two types of communication. (4) (CO1, BL2)
- ii) Explain the term persuasion in terms of group discussion. (4) (CO1, BL2)

Q3) Answer the questions in not more than 200 words each. (4x2= 8)

- A)** Illustrate any four tips to remember during an interview. (4)(CO2, BT2)
- B)** Demonstrate the structure of formal Email correspondence. (4) (CO4, BT2)

Q4) Utilizing the information provided below answer any one question. (8x1= 8)

- A)** You are Virat/Varennya Nath resident of Hill view Apartments, Ponda-Goa. Write a complaint letter to the Public Works Department about potholes and public road safety. (8) (CO4, BL3)

OR

- B)** You are Utpal/Uma Naik resident of Shanti Bhavan, Mardol-Goa. Write a cover letter in response to an advertisement in the Navind Times, for a job position of a Web developer at Tech-Nova Pvt Ltd, Panjim-Goa. (8) (CO4, BL3)

P.T.O.

Q5) Asses the following and answer any one question.

(1x8= 8)

A) Write a report as Navin/Navomi Costa on Vanamostav celebrated in your college. The chief guest for the event was Goan Environmental activist Rajendra Kerkar. **(8) (C04, BL4)**

OR

B) You are invited as a student guest speaker for the Goa liberation Day celebration at your college. Draft a speech on the topic, "Goa beyond Beaches." **(8) (C04, BL4)**

-----THE END-----

Goa Vidyaprasarak Mandal's
Gopal Govind Poy Raiturkar College of Commerce and Economics
Farmagudi, Ponda Goa.
B.C.A. (Semester I) End Examination, October-November 2025
Minor-1 MAT-111 ELEMENTARY MATHEMATICS

Duration: 2 Hrs

Marks:80

Instructions:

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

- Q1)** Answer each of the following: **(8×2=16)**
- i) Define Reflexive relation. Give one example. **(BL1,CO2)**
 - ii) Define complex number and give an example. **(BL1,CO4)**
 - iii) Define Singleton set and give an example. **(BL1,CO2)**
 - iv) Write the truth table for conjunction. **(BL1,CO1)**
 - v) State De Morgan's Laws for sets and write them using set notation. **(BL1,CO2)**
 - vi) Define order and degree of differential equation. **(BL1,CO5)**
 - vii) Give an example of a relation that is reflexive and symmetric. **(BL1,CO2)**
 - viii) Define conjugate of complex number and hence write the conjugate of $4 - 7i$. **(BL1,CO4)**
- Q2) A) i)** Explain, using the given sets $A = \{1,4,7,10,13\}$, $B = \{1,3,5,7,9,11,13\}$ and $C = \{x: 2 \leq x \leq 6, x \in \mathbb{N}\}$, whether $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$ holds true. **(BL2,CO2) (04)**
- ii)** Explain, with reasoning, how the expression $\frac{(2+i)+(2-i)}{3-i}$ can be simplified to a complex number in standard form $a + bi$. **(BL2,CO4) (02)**
- OR**
- iii)** Explain how to determine whether each of the following values $f(2), f(-4), f(3), f(5)$ of $f(x) = x^2 - 2x + 5$ is defined for the given domain $0 \leq x < 5$. Then, for the values that exist, find them. **(BL2,CO2) (04)**
- iv)** Given $Z_1 = 2 - 3i$ and $Z_2 = 5 + 6i$, explain how to find the complex number $2Z_1 + 3Z_2$. **(BL2,CO4) (02)**
- P.T.O.**

- Q2) B) i)** Explain whether the function $f(x) = \begin{cases} \frac{1}{x^2-5x+6} + \frac{1}{2x^2-7x+6} & ; \quad x \neq 2 \\ 5 & ; \quad x = 2 \end{cases}$ is continuous at $x = 2$. Describe what happens to $f(x)$ as x approaches 2, and state what type of discontinuity it shows if it is not continuous and redefine the function. **(BL2,CO3) (06)**
- ii)** Explain whether $y = ae^{4x} + bxe^{4x}$ is a solution of the differential equation $\frac{d^2y}{dx^2} - 8\frac{dy}{dx} + 16y = 0$. **(BL2,CO5) (04)**

- Q3) A) i)** Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be defined by $f(x) = 6 + 4x$. Show that f is bijective and find its inverse. **(BL3,CO2) (04)**
- ii)** Find values of x for which function $f(x) = 2x^3 - 12x + 1$ is decreasing. **(BL3,CO3) (02)**

OR

- Q3) A) iii)** Prove that the relation R on the set of integers $\mathbb{Z}$ defined as $R = \{(x, y): x - y \text{ is divisible by } 5; x \in \mathbb{Z}, y \in \mathbb{Z}\}$ is an equivalence relation. **(BL3,CO2) (04)**
- iv)** Find values of x for which function $f(x) = x^3 - 6x - 5$ is increasing. **(BL3,CO3) (02)**

- Q3) B) i)** For the given vector field $\vec{V} = x^2y^2\hat{i} + x^2yz\hat{j} - 3y^2z^2\hat{k}$, find **(BL3,CO5) (06)**
a) Divergence of $\vec{V}$ at $(1,0,2)$
b) Curl of $\vec{V}$
- ii)** Find maximum and minimum values of the function $f(x) = 2x^3 - 9x^2 + 12x - 4$. **(BL3,CO3) (04)**

- Q4) A) i)** Let $\vec{a} = 2\hat{i} - 2\hat{j} + \hat{k}$ and $\vec{b} = 3\hat{i} - 2\hat{j} + \hat{k}$ be two vectors **(BL4,CO5) (04)**
a) Analyze the geometric relationship between $\vec{a}$ and $\vec{b}$ (are they perpendicular, parallel, or neither?).
b) determine cross product.
- ii)** Let $y = \frac{3x^2+x}{\cos x}$. **(BL4,CO3) (02)**
(a) Analyze the structure of y and identify which differentiation rules are needed.
(b) Differentiate y with respect to x .

OR

- Q4) A) iii)** Let $\vec{a} = \hat{i} + 2\hat{j} - \hat{k}$ and $\vec{b} = 2\hat{i} - \hat{j} + \hat{k}$. **(BL4,CO5) (04)**
a) Find a vector perpendicular to both $\vec{a}$ and $\vec{b}$.
b) Hence, determine a unit vector in that direction. **P.T.O.**

iv) Let $y = 2e^x \sin x$. (BL4,CO3) (02)

(a) Analyze the structure of y and identify which differentiation rules are needed.

(b) Differentiate y with respect to x .

Q4) B) i) In a college of 200 students, 75, 80 and 70 students are enrolled in (BL4,CO2) (06)

Mathematics, Science and Computer Skills respectively. Further analysis showed that: 30 students enrolled in both Mathematics and Science, 28 students enrolled in both Science and Computer Skills, 25 students enrolled in both Mathematics and Computer Skills, and 15 students enrolled in all three courses. Using this information, analyse and determine:

a) Number of students who did not enroll in any of the three courses.

b) Number of students who enrolled in Mathematics or Science or both.

c) Number of students who enrolled in Science or Computer Skills or both.

ii) Prove that the following statements are logically equivalent. (BL4,CO1) (06)

$$(p \vee q) \rightarrow r \equiv (p \rightarrow r) \wedge (q \rightarrow r)$$

Q5) A) i) Analyse and find the solution of the following differential equation: (BL4,CO5) (03)

$$\frac{dy}{dx} = \frac{3x^2 + \cos x}{y^4 - 5y}$$

ii) Analyse and evaluate the limit: $\lim_{x \rightarrow 2} \left[\frac{x^2 - 9x + 14}{(x-2)} \right]$ (BL4,CO3) (03)

OR

Q5) A) iii) Analyse and form the differential equation representing the family of (BL4,CO5) (03)
curves $y = e^{2x} (a + bx)$, where a, b are constants.

iv) Analyse and evaluate the limit: $\lim_{x \rightarrow 3} \left[\frac{1}{x-3} - \frac{3}{x^2-3x} \right]$ (BL4,CO3) (03)

Q5) B) i) Express the complex number $(1 + \sqrt{3}i)$ in polar form. (BL3,CO4) (04)

ii) Construct truth table for the compound statement (BL3,CO1) (04)
 $\sim(p \leftrightarrow q) \rightarrow p \wedge \sim q$.

Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND ECONOMICS
FARMAGUDI, PONDA-GOA

B.C.A. UGC-CCFUP (SEMESTER-I) REGULAR EXAMINATION, OCTOBER/NOVEMBER 2025
VAC-100 ENVIRONMENTAL STUDIES I

Duration – 1 hour

Total Marks – 40

Instructions:

- 1) All questions are compulsory.**
- 2) To the right CO, BL indicates Course Outcomes and Bloom's Taxonomy Levels respectively.**

Q.1 Answer the following: (4X2=8 Marks)

- i) Define natural resources. [CO1BL1] (2)
- ii) What is biodiversity? [CO2 BL1] (2)
- iii) Mention two characteristic features of a desert ecosystem. [CO2 BL1] (2)
- iv) State any two objectives of studying environmental studies. [CO2 BL1] (2)

Q.2.A) Describe how the construction of dams affects forests and tribal communities. [CO1 BL1] (4)

Q.2.B) Identify the roles of producers, consumers, and decomposers in an ecosystem. [CO2 BL1] (4)

Q.3.A) Explain why the Western Ghats and Eastern Himalayas are considered biodiversity hotspots in India. [CO3 BL2] (4)

Q.3.B) Explain the effects of modern agriculture on the environment. [CO1 BL2] (4)

OR

Q.3.C) Discuss how rapid industrialization and urbanization contribute to water scarcity. [CO1 BL2] (4)

P.T.O.

Q.4.A) Illustrate the importance of forests for maintaining ecological balance. [CO1 BL3] (4)

Q.4.B) Interpret how poaching and hunting affects wildlife populations. [CO3 BL3] (4)

OR

Q.4.C) Apply your understanding of sustainable development to suggest ways to make mining eco-friendly with examples. [CO2 BL3] (4)

Q.5.A) Elaborate why we need to focus on renewable energy development. [CO2 BL3] (4)

Q.5.B) Differentiate between food chain and food web with examples. [CO3 BL3] (4)

OR

Q.5.C) Distinguish between In-situ and Ex-situ methods of conservation. [CO3 BL3] (4)

X-----**BEST OF LUCK**-----X

Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND ECONOMICS
FARMAGUDI, PONDA GOA
B.C.A. UGC-CCFUP (SEMESTER-I) REGULAR EXAMINATION OCTOBER/NOVEMBER 2025
VAC-108: INTRODUCTION TO THE FOLKTALES OF INDIA

Time: 01 hour

Marks: 40

Instructions:

- i. *All questions are compulsory*
- ii. *CO indicates Course Outcome*
- iii. *BL indicates Blooms Taxonomy Level*
- iv. *Marks are mention at the right-hand side margin i.e. 1mark × 5questions= 5marks.*

Q1) Name the following.

(2x4=8)

- i) Any two Global folktales. **(2) (CO3, BL1)**
- ii) A visual tribal folktale format of the Himalayan foothills that feature habitat animals, nature, spirits and deities. **(2) (CO2, BL1)**
- iii) A collection of Indian folktales and fables that was traditionally written in Sanskrit. **(2) (CO2, BL1)**
- iv) Author of the collection "A Flowering Tree and Other Oral Tales from India." **(2) (CO3, BL1)**

Q2) Answer the following questions in not more than 50 words.

(2x4=8)

- A) i) What are folktales?** **(2) (CO1, BL1)**
- ii) Interpret what is meant by fables in terms of folktales. Give examples. **(2) (CO1, BL1)**
- B) i) What do you mean by Motif?** **(2) (CO1, CO3, BL1)**
- ii) Show how Chitrakathi artists are connected to Chhatrapati Shivaji. **(2) (CO1, CO3, BL1)**

Q3) Answer any two questions in 80-100 words.

(4x2=8)

- A) Classify the key features of folktales.** **(4) (CO1, BL2)**
- B) Illustrate any one symbol from the folktale "A Story and a Song."** **(4) (CO2, BL2)**

OR

- C) Explain what is meant by creation myths.** **(4) (CO2, BL2)**

P.T.O.

Q4) Answer any two questions in not more than 200 words each. (4x2=8)

A) Show how magic is used as a moral and educational tool in the story “Three Magic Objects.” (4) (CO2, BL2)

B) Demonstrate how variant works in terms of folktales using suitable examples. (4) (CO1, BL2)

OR

C) Outline a brief summary of the story “The Pomegranate Queen” highlighting its key takeaway lesson. (4) (CO3, BL2)

Q5) Answer any two questions in not more than 200 words each. (4x2=8)

A) Apply the theme of patriarchy to the folktale, “The Adventures of a Disobedient Prince” and reflect upon it. (4) (CO2, BL3)

B) Identify the different modes of performance and storytelling in Indian folklore. Give suitable examples. (4) (CO3, BL3)

OR

C) Utilizing any of the below given characteristics, draft a folktale of your own. (Honesty/Cleverness/Pride/Magic/Moral/Talking animals) (4) (CO4, BL3)

-----THE END-----

Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND ECONOMICS
FARMAGUDI, PONDA GOA
BCA UGC-CCFUP (SEMESTER-I) REGULAR EXAMINATION OCTOBER/NOVEMBER 2025
VAC-116: LIFE SKILLS

Time: 01 hour

Marks: 40

Instructions:

- i. *All questions are compulsory*
- ii. *CO indicates Course Outcome*
- iii. *BL indicates Blooms Taxonomy Level*
- iv. *Marks are mention at the right-hand side margin i.e. 1mark × 5questions= 5marks.*

Q1) Answer the following questions in not more than 50 words. (2x4=8)

- i) What are Life Skills? (2) (CO1, BL1)
- ii) Name the key aspects of healthy self-esteem. (2) (CO2, BL1)
- iii) What is active listening? (2) (CO1, BL1)
- iv) What do you mean by peer pressure? (2) (CO1, BL1)

Q2) Answer the following questions in 50-100 words.

- A) i) If the sequence is 2, 6, 12, 20,30,.....
Reason out what is the next number in line. (1) (CO4, BL1)

- ii) If L is N's sister, N is O's father and O is M's brother. Tell how L is related to M? (1) (CO4, BL1)

- iii) List the differences between critical thinking and creative thinking. (2) (CO4, BL2)

- Q2) B) i) Define self-awareness. (2) (CO1, BL1)
ii) Name the components of SMART Goal setting. (2) (CO1, BL1)

- Q3) A) Summarize the applications of life skills. (4) (CO3, BL2)

- B) What do you mean by staying in tune with oneself? (4) (CO1, BL2)

OR

- C) Build the POWER model of decision making. (4) (CO1, BL2)

- Q4) A) Explain what is meant by empathy. (4) (CO1, BL2)

- B) Interpret the importance of healthy relationship with family & friends. (4) (CO2, BL2)

OR

- C) Illustrate can one use JOHRI window for self-actualization? (4) (CO2, CO3, BL2)

P.T.O.

Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND ECONOMICS
FARMAGUDI, PONDA- GOA
B.C.A. UGC-CCFUP(SEMESTER-I) REGULAR EXAMINATION OCTOBER/NOVEMBER 2025
MC-1 COM 133- MARKETING FOR BEGINNERS

Duration: 2 hours

Total marks: 60

Instructions: i) All questions are compulsory.

ii) Figures to the right indicate full marks.

iii) To the right the C0, BL indicates Course outcome and Blooms taxonomy respectively.

Q1. Answer the Following.

(6x2 marks = 12 marks)

- | | |
|----------------------------------|------------|
| 1. Define Green marketing. | (BL1, CO3) |
| 2. What is Branding? | (BL1, CO1) |
| 3. What is Influencer marketing? | (BL1, CO3) |
| 4. What is Consumerism? | (BL1, CO3) |
| 5. Define Marketing myopia. | (BL1, CO1) |
| 6. List the Macro factors. | (BL1, CO1) |

Q2. A. i) What is the importance of marketing.

(BL1, CO1) (3)

ii) State the functions of labelling?

(BL1, CO1) (2)

OR

Q2. A. iii) Explain **any 3** Ps of marketing mix.

(BL1, CO1) (3)

iv) What is relationship marketing?

(BL1, CO4) (2)

Q2. B.i) Explain in brief the Marketing Philosophies.

(BL1, CO2) (5)

ii) What is consumer behaviour?

(BL1, CO1) (2)

Q3.A.i) Explain **any three** Stages of product development.

(BL2, CO2) (3)

ii) Explain **any one** function of branding.

(BL2, CO1) (2)

OR

Q3.A iii) Explain **any three** importance of service marketing.

(BL2, CO4) (3)

iv). What is Green washing?

(BL2, CO4) (2)

Q3.B. i) Explain with the help of a diagram the different stages of the Product Life Cycle and

describe what typically happens to sales, profits and marketing efforts during each stage.(BL2, CO2) (5)

ii) Explain **any two** qualities of a good brand name.

(BL2, CO1) (2)

P.T.O.

- Q4.A. i) Explain in brief **any three** rights of a consumer. (BL2, CO4) (3)
ii) Explain **any one** type of Product. (BL2, CO1) (2)

OR

- Q4.A. iii) Explain in brief **any three** importance of Ethics In Marketing. (BL2, CO4) (3)
iv) Explain **any two** characteristics of Service marketing. (BL2, CO3) (2)

- Q4.B.i) Briefly explain the Pricing Strategies of a Product. (BL2, CO2) (5)
ii) Briefly explain **any two** Promotional strategies. (BL2, CO2) (2)

Q.5.A. i) Azhaan's company is facing low sales due to poor product visibility on retail store shelves. As a marketing executive, how would you apply your understanding of the functions of packaging to redesign or modify the product packaging in order to enhance shelf appeal and attract customer attention? (BL3, CO1) (3)

ii) Sahil and Kartik are 2 entrepreneurs who run a food chain business and want to expand their food offerings by introducing a new vegan menu. How can the insights of consumer behavior influence the success of their new menu? (BL3, CO1) (2)

OR

Q.5.A. iii) Varad owns a café in the city. He is trying to increase the customer base, so he decides to hire a popular content creator to promote his café. How would this collaboration help him to achieve his goal? (BL3, CO3) (3)

iv) Sidharth is selling a new brand of athletic shoes named comfy shoes aimed at reaching wider audience. In what ways could digital marketing offer advantages over traditional marketing to promote his product effectively? (BL3, CO3) (2)

Q.5.B.i) Ayaan owns a small business that manufactures premium watches. As a marketing analyst, how would you apply your knowledge of the types digital marketing strategies to help him effectively reach and engage potential customers online? (BL3, CO3) (5)

Q.5.B.ii) Ashish wants to expand his brand into rural markets across India. As a rural marketing strategist, how would you apply your understanding of rural markets to advise him on key characteristics he must consider before entering the rural market? (BL3, CO3) (2)

=== XXXXX ALL THE BEST XXXXX===

Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND
ECONOMICS PONDA- GOA
B.C.A UGC-CCFUP (SEMESTER I) REGULAR EXAMINATION, OCTOBER 2025
CSA-100 PROBLEM SOLVING AND PROGRAMMING

Duration: 2 hours

Total Marks: 60

Instructions:

- i) All questions are compulsory***
- ii) Figures to the right indicate full marks.***
- iii) Draw diagrams wherever necessary.***

Q.1)	Answer each of the following	(Marks) (CO) (BL)
i.	Define the term variable and constant.	(2) (CO 2) (BL 1)
ii.	State any two rules for writing identifiers in C.	(2) (CO 2) (BL 1)
iii.	What is meant by flowchart symbols?	(2) (CO 1) (BL 1)
iv.	Define syntax error with an example.	(2) (CO 2) (BL 1)
v.	Name any two building blocks of algorithm.	(2) (CO 2) (BL 1)
vi.	Define Modular Programming.	(2) (CO 1) (BL 1)
Q.2 A) i)	Discuss how stepwise refinement helps in breaking down a complex problem.	(3) (CO 1) (BL 2)
ii)	Distinguish between top-down and bottom-up approaches to algorithm design.	(2) (CO 2) (BL2)
OR		
Q.2A) iii)	Explain any two styles of naming convention standard.	(3) (CO 1) (BL 2)
iv)	Describe any two escape sequences used in C output statements.	(2) (CO 2) (BL 2)
Q.2 B) i)	Explain various stages in the problem-solving life cycle with an example from a real-world situation.	(5) (CO 1) (BL 2)
ii)	Write any two advantages of proper program documentation.	(2) (CO 2) (BL 2)

- Q.3 A) i)** Construct a simple C code segment to determine whether a number is even or odd. (3) (CO 3) (BL 3)
- ii) Demonstrate the use of logical AND (&&) operator in C with a suitable example. (2) (CO 3) (BL 3)

OR

- Q.3 A) iii)** Construct a switch-based logic using C program to display traffic light instructions such as 1 – Stop, 2 – Wait, 3 – Go. (3) (CO 3) (BL 3)
- iv) Illustrate the use of relational operators with an example. (2) (CO 3) (BL 3)
- Q.3 B) i)** Implement decision-control structures in C to calculate and display a student's grade according to the following: (5) (CO 3) (BL 3)

MARKS	GRADE
Marks ≥ 75	Distinction
60 – 74	First class
50 – 59	Second class
40 – 49	Pass
Below 40	Fail

- ii) Determine the importance of defining inputs and outputs before writing an algorithm. (2) (CO 3) (BL 3)
- Q.4 A) i)** Analyse the logic of the following program segment and state the final value of fact when $n = 5$. Explain how each iteration contributes to the result. (3) (CO 4) (BL 4)

```
#include <stdio.h>

void main ( )
{
    int n = 5, fact = 1, i;
    for (i = 1; i <= n; i++)
        fact = fact * i;
    printf("%d", fact);
}
```

- ii) Evaluate which loop is most suitable for accepting numbers from a user until zero is entered and justify your choice. (2) (CO 4) (BL 5)

OR

- Q.4 A) iii)** Examine how scanf() and printf() work together in the following code. Identify what happens when the user enters the value 10 and 20. (3) (CO 4) (BL 4)

```
#include <stdio.h>
void main ( )
{
    int a, b;
    scanf("%d %d", &a, &b);
    printf("Sum = %d", a + b);
}
```

- iv) Find the output of the below given code and justify your answer: (2) (CO 4) (BL 5)

```
#include <stdio.h>
void main()
{
    int i;
    for (i = 1; i < 3 i++)
        printf("%d \n ",i);
}
```

- Q.4 B) i)** Analyse the behaviour of Call by Value in C by writing a program that swaps two numbers using functions, and interpret why the original values in the calling function remain unchanged (5) (CO 4) (BL 4)
- ii) Evaluate the effect of using the break statement in a C program. Justify its role in controlling program flow. (2) (CO 4) (BL 4)

- Q.5 A) i)** Analyse the process of accessing elements in a one-dimensional array by index and demonstrate it through a C program that initializes an array of six elements and displays all its values using array index. (3) (CO 4) (BL 4)
- ii) Examine how local and global variables differ in C in terms of scope, lifetime, and accessibility. (3) (CO 4) (BL 4)

OR

- Q.5 A) iii)** Analyse how the following expression is evaluated in C using operator precedence and associativity rules. Show the sequence of operations and state the final result. (3) (CO 4) (BL 4)

```
int a = 2, b = 3, c = 4, result;  
result = ++a * b -- + c / a > 10 || b > 1;
```

- iv) Explain how different format specifiers such as %d, %f, and %c in printf () affect the way data is displayed in a C program. Give one example explaining each. (3) (CO 4) (BL 4)

- Q.5 B) i)** Write a C program to input a string and display its length using the strlen () function. (3) (CO 4) (BL 3)

- ii) Explain the difference between recursion and iteration in C, giving one example of each. (3) (CO 4) (BL 3)

**Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF
COMMERCE AND ECONOMICS PONDA - GOA**

B.C.A. UGC-CCFUP (SEMESTER-I) REGULAR EXAMINATION OCTOBER/NOVEMBER 2025

PYTHON PROGRAMMING(CSA-142)

Semester No: I

Duration: 1 HOUR

Total Marks: 20

Instructions: 1. All questions are compulsory
2. Assume necessary data wherever required

Q.1. Answer the following:

A. Define following:

(4x1 =04 Marks) (BL-1,CO-1)

A. Boolean operator

I. Anonymous Function

B. Lambda Expressions

II. fixed values that are directly written into the code

C. Literals

III. define blocks of code

D. Indentation

IV. used in conditions, decision making.

Q2. A. What is the use of pass statement in python. Give example.

(2 marks) (BL-1,CO-2)

OR

Q2. A. What is the use of continue statement in python. Give example.

(2 marks) (BL-1,CO-2)

Q2. B. Write short note on Conditional statements in Python.

(2 marks) (BL-1,CO-2)

Q3. A. Compare List and Tuple with the help of suitable example.

(2 marks) (BL-2,CO-3)

OR

Q3. A. Explain with an example following Dictionary method

(2 marks) (BL-2,CO-3)

1. values()

2. Copy()

Q3. B. Explain List slicing with example.

(2 marks) (BL-2,CO-3)

P.T.O.

Q4. A. Explain concept of class and object in python with example. **(2 marks) (BL-2,CO-4)**

OR

Q4. A. Identify the type of file and mode of opening the file for following: **(2 marks) (BL-3,CO-4)**

1. `f= open("m.png","a")` 2. `f= open("test.txt","r+")`

Q4. B. Use dictionary comprehension to create a dictionary of numbers from 1 to 6 and their squares. **(2 marks) (BL-2,CO-3)**

Q5. A. Identify and write information on following math library function : **(2 marks) (BL-3,CO-3)**

1. `pow()` 2. `floor()`

OR

Q5.A. Identify and write information on following statistics library function: **(2 marks) (BL-3,CO-3)**

1. `mean()` 2. `mode()`

Q5. B. Explain concept python standard libraries with example **(2 marks) (BL-3,CO-4)**
