

FOUR YEAR HONOURS B.C.A.(GENERAL) DEGREE EXAMINATION,

APRIL/MAY - 2026

CHOICE BASED CREDIT SYSTEM

FOURTH SEMESTER - MAJOR

PART - II

PAPER - 10 : OPERATING SYSTEMS

(Under CBCS New Regulation w.e.f. the academic year 2024-25)

Time : 3 Hours

Max. Marks : 75

SECTION - A

(Short Questions) .

Answer any Five of the following questions. Each question carries 3 marks.(5×3=15)

1. Define an Operating System and its basic functions.
2. What are system calls? Give examples.
3. List two differences between UNIX and Windows operating systems.
4. What is meant by process scheduling?
5. Write a short note on Round Robin Scheduling.
6. Define semaphores in process synchronization.
7. What are the necessary conditions for deadlock?
8. Explain paging in memory management.
9. What is meant by file allocation methods?
10. Define directory structure in operating systems.

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SECTION - B
(Essay Questions)

Answer any Five of the following questions. Each question carries 12 marks.

(5×12=60)

11. Discuss the history and evolution of operating systems.
12. Explain the structure of an operating system and its services.
13. Write an essay on CPU scheduling algorithms (FCFS, SJF, RR, Priority).
14. Discuss the critical section problem and solutions using semaphores.
15. Explain deadlock prevention, avoidance, detection, and recovery.
16. Write an essay on page replacement algorithms with examples.
17. Discuss segmentation and paging in memory management.
18. Explain file system implementation and compare UNIX and Windows.
19. Write an essay on case study: differences between UNIX and Windows OS.
20. Evaluate the importance of debugging and efficiency in operating systems.

**FOUR YEAR B.C.A. (HONOURS) (DATA SCIENCE/ARTIFICIAL
INTELLIGENCE/ BIG DATA/CLOUD COMPUTING/GENERAL)**

DEGREE EXAMINATION, APRIL/MAY - 2026

CHOICE BASED CREDIT SYSTEM

FOURTH SEMESTER - MAJOR

PART - II

PAPER - 9 : PYTHON PROGRAMMING

(Under CBCS New Regulation w.e.f. the academic year 2024-25)

Time : 3 Hours

Max. Marks : 75

SECTION - A
(Short Questions)

Answer any Five of the following questions. Each question carries equal marks.

(5×3=15)

1. Define Python identifiers with examples.
2. What is the role of indentation in Python?
3. Explain the use of break and continue statements.
4. What are string handling functions in Python?
5. Define recursive functions with an example.
6. What is meant by inheritance in Python OOP?
7. Write a short note on exception handling in Python.
8. What are list methods? Give examples.
9. Define NumPy array indexing.
10. What is the purpose of line chart in Matplotlib?

SECTION - B
(Essay Questions)

Answer any Five of the following questions. Each question carries equal marks.

(5×12=60)

11. Discuss the features of Python that make it different from procedural languages.
 12. Explain flow of control in Python with examples of selection and repetition.
 13. Write an essay on functions in Python including built-in, user-defined, and recursive functions.
 14. Discuss object-oriented programming in Python with examples of classes, inheritance, and polymorphism.
 15. Explain exception handling in Python and compare it with Java exception handling.
 16. Write an essay on lists, tuples, and dictionaries with examples of operations and methods.
 17. Discuss NumPy operations such as concatenation, reshaping, and statistical functions.
 18. Explain data handling using Pandas with importing/exporting CSV files.
 19. Write an essay on plotting data using Matplotlib with examples of bar chart, histogram, and scatter chart.
 20. Discuss database connectivity in Python with MySQL and its advantages over other databases.
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FOUR YEAR HONOURS B.C.A. (General) DEGREE EXAMINATION,

APRIL/MAY - 2026

CHOICE BASED CREDIT SYSTEM

FOURTH SEMESTER - MAJOR

PART - II

PAPER - 11 : WEB PROGRAMMING

(Under CBCS New Regulation w.e.f. the academic year 2024-25)

Time : 3 Hours

Max. Marks : 75

SECTION - A

(Short Questions)

Answer any Five of the following questions. Each question carries 3 marks.

(5×3=15)

1. Define HTML attributes with examples.
2. What are the differences between HTML and HTML5?
3. Explain the role of block elements in HTML.
4. What is the use of the blockquote element?
5. Write a short note on CSS selectors.
6. What is the difference between ID selector and Class selector in CSS?
7. Define navigation bar in web programming .
8. What is meant by relative URLs?
9. Explain the purpose of the iframe element.
10. What is the Document Object Model (DOM)?

SECTION - B

(Essay Questions)

Answer any Five of the following questions. Each question carries 12 marks.

(5×12=60)

11. Discuss the history of HTML and explain how HTML5 improved web programming .
 12. Write an essay on HTML coding conventions and their importance in web development.
 13. Explain CSS properties such as color, font, border, padding , and margin with examples.
 14. Discuss the role of lists, figures, and organizational elements in structuring web pages.
 15. Explain table elements and the difference between data tables and layout tables.
 16. Write an essay on image formats (GIF, JPEG, PNG, SVG) and their usage in web programming.
 17. Discuss audio and video implementation in HTML5 with examples.
 18. Explain the syntax rules for JavaScript functions, variables, and event handlers.
 19. Write an essay on case study: creating a webpage of your department using HTML tags and attributes.
 20. Evaluate the importance of CSS in enhancing webpage design compared to plain HTML.
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**FOUR YEAR HONOURS B.B.A. (General) /B.Com. (General/Computer
Application) DEGREE EXAMINATION, APRIL/MAY - 2026**

CHOICE BASED CREDIT SYSTEM

FOURTH SEMESTER

PART - II : BUSINESS MANAGEMENT

PAPER - 11 : FINANCIAL MANAGEMENT

(Under CBCS New Regulation w.e.f. the academic year 2023-24)

Time : 3 Hours

Max. Marks : 75

SECTION - A

Answer any Five of the following questions. Each question carries equal marks.

(5×3=15)

1. Profit Maximization
2. Financial Manager
3. Net Present value
4. E.B.I.T
5. Operating Leverage
6. Types of Cost of Capital
7. Gordon's model
8. Retained Earnings
9. Current Assets
10. Net working capital

SECTION - B

Answer any Five of the following questions. Each question carries equal marks.

(5×12=60)

11. Explain Role of financial Manager.
12. Explain scope of financial management.

13. Explain Traditional Techniques of capital Budgeting decisions.
14. The following data is available in respect of two mutually exclusive projects to be considered by the management for investment.

Cash flows:

Year	Project - X	Project - Y
	Rs.	Rs.
1	60,000	90,000
2	75,000	1,50,000
3	1,20,000	1,75,000
4	1,80,000	1,25,000
5	2,50,000	50,000

Project X cost Rs. 2,75,000 and Project Y costs Rs. 3,00,000. An investment of this type is expected to earn a discounted rate of return at least 12%. You are required to determine the more desirable project by the Net present value method.

15. Explain what is leverage and types of leverage.
16. Explain Net Income approach.
17. What is dividend? Explain Gordon's Model Theory.
18. What is dividend Policy? Explain determinants of dividend policy.
19. What is working capital? Explain the need of working capital.
20. Explain the Sources of working capital.

**FOUR YEAR HONOURS B.B.A. (GENERAL) /B.Com.
(GENERAL/COMPUTER APPLICATION) DEGREE EXAMINATION,
APRIL/MAY - 2026**

CHOICE BASED CREDIT SYSTEM

FOURTH SEMESTER-MINOR

PART - II : BUSINESS MANAGEMENT

PAPER -10 : HUMAN RESOURCE MANAGEMENT

(Under CBCS New Regulations w.e.f. the Academic year 2023-24)

Time : 3 Hours

Max. Marks : 75

SECTION -A

Answer any Five of the following questions. Each question carries 3 marks.

(5×3=15)

1. Need for the study of HRM.
2. Job Description.
3. Sources of Recruitment.
4. Concept of online Recruitment.
5. Training Vs. Development.
6. Steps in Training Programme.
7. Scope of Performance Appraisal.
8. Types of Industrial Disputes.
9. Concept of collective Bargaining
10. Lecture Method.

SECTION - B

Answer any Five of the following questions. Each question carries 12 marks.

(5×12=60)

11. ✓ Discuss in detail about the Role of HR Manager in a large scale organisation.
 12. Discuss the scope and significance of HRM.
 13. ✓ Evaluate the process involved in Recruiting employees.
 14. ✓ What are the Techniques available for selection of employees in a large scale organisation?
 15. What do you understand by the concept of Executive Development? Discuss its significance.
 16. What are the issues involved in designing a Training programme?
 17. ✓ Write in detail about any one of the methods of performance Appraisal.
 18. ✓ What are the objectives of implementing performance Appraisal in a large scale organisation?
 19. Explain about the machinery available to settle Industrial Disputes.
 20. Define 'Industrial Relations'. What measures are required to strengthen Industrial Relations?
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**FOUR YEAR B.A./B.Com./B.Sc./B.C.A./B.B.A./B.Music/B.Dance/B.A.(O.L)/B.H.M/
B.VOCATIONAL IN DAIRYING AND ANIMAL HUSBANDRY/
B.VOCATIONAL IN HORTICULTURE (ALL GROUPS) DEGREE
EXAMINATION, APRIL/MAY - 2026
CHOICE BASED CREDIT SYSTEM
FOURTH SEMESTER
PART - I(C) : LIFE SKILL COURSE
PAPER - III : CYBER SECURITY
(Under CBCS New Regulation w.e.f. the academic year 2024-25)**

Time : 1½ Hours

Max. Marks : 50

**Answer any Five questions. Each question carries equal marks. (Essay questions).
(5×10=50)**

1. ✓ Discuss the definition of cybercrime and explain its origins.
2. ✓ Explain the classifications of cybercrimes with suitable examples.
3. Write an essay on cybercrime and the Indian IT Act 2000.
4. ✓ Discuss the global perspective on cybercrimes and their impact on society.
5. Explain credit card frauds in the mobile and wireless computing era.
6. Write an essay on organizational measures for handling mobile device security issues.
7. ✓ Discuss the role of organizational security policies in mobile computing.
8. ✓ Explain password cracking techniques and their implications in cybercrime.
9. Write an essay on phishing attacks and preventive measures.
10. Discuss identity theft and its impact on individuals and organizations.

FOUR YEAR HONOURS DEGREE EXAMINATION, APRIL/MAY - 2026

FOURTH SEMESTER

PART - MULTIDISCIPLINARY COURSES

PAPER - INTRODUCTION TO NANOTECHNOLOGY

Time : 1½ Hours

Max. Marks : 50

Answer any Five of the following questions

(5×10=50)

1. Define nanotechnology. Discuss its scope and interdisciplinary nature.
 2. Explain the historical development and key milestones in nanotechnology.
 3. Describe nanoscale science and explain quantum effects and surface-to volume ratio.
 4. Explain different types of nanomaterials with suitable examples.
 5. Describe top-down fabrication techniques such as lithography and etching.
 6. Explain bottom-up fabrication methods including self-assembly and molecular nanotechnology.
 7. Discuss environmental and health impacts of nanotechnology.
 8. Explain ethical considerations and societal implications of nanotechnology.
 9. Describe regulatory frameworks and safety standards in nanotechnology.
 10. Discuss applications of nanotechnology in medicine, electronics, and energy sectors.
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