

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

APRIL/MAY - 2025

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

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

(5×3=15)

1. Write a detailed note on an Operating System.
2. Explain in detail about system calls.
3. Discuss a process in the context of an OS.
4. List any two scheduling algorithms.
5. Explain process synchronization in detail.
6. Explain the necessary conditions for a deadlock to occur.
7. Write a detail note on paging in memory management.
8. Name any two page replacement algorithms.
9. Explain File System in detail.
10. Differentiate between a file and a directory.

SECTION - B

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

(5×12=60)

11. Explain the structure of an operating system with suitable examples.
 12. Explain the history and evolution of operating systems in detail.
 13. Describe the different CPU scheduling algorithms with their advantages and disadvantages.
 14. Explain scheduling criteria with examples.
 15. Discuss the methods for handling deadlocks in operating systems.
 16. Discuss the new methodologies available for handling deadlocks in modern operating systems.
 17. Describe the methods of contiguous and non-contiguous memory allocation.
 18. Compare and contrast paging and segmentation with suitable examples.
 19. Describe the different file allocation methods with their pros and cons.
 20. Compare the directory structure of UNIX and Windows operating systems.
-

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

DEGREE EXAMINATION, APRIL/MAY - 2025

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

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

(5×3=15)

1. Explain the concept of indentation in Python.
2. List and explain different types of operators in Python.
3. Explain the scope of a variable in Python.
4. How does exception handling work in Python?
5. Differentiate between tuples and lists.
6. Explain dictionary traversal with an example.
7. Explain array indexing in detail.
8. How do you import and export data between CSV files and data frames?
9. List the different types of plots supported by Matplotlib.
10. Explain the process of connecting Python with MySQL.

SECTION - B

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

(5×12=60)

11. Explain the different data types in Python with examples.
 12. Explain string handling functions in Python.
 13. Explain built-in functions and user-defined functions in Python with examples.
 14. Explain how modules and packages work in Python with examples.
 15. Discuss different list methods and built-in functions with examples.
 16. Describe dictionaries in Python and their special features.
 17. Explain different operations on NumPy arrays with examples.
 18. Explain Pandas series and data frames with examples.
 19. Discuss different types of charts in Matplotlib with examples.
 20. Compare MySQL with other commercial databases in terms of features and advantages.
-

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

APRIL/MAY - 2025

CHOICE BASED CREDIT SYSTEM

FOURTH SEMESTER

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

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

(5×3=15)

- 1) Write a short note on HTML elements.
- 2) Differentiate between HTML and HTML5.
- 3) Explain the importance of HTML coding convention.
- 4) Write a note on whitespace collapsing.
- 5) Explain CSS selectors in detail.
- 6) List and explain padding properties.
- 7) Differentiate between data tables and layout tables.
- 8) What is the <figure> element used for?
- 9) How do you implement an audio player.
- 10) Explain Document Object Model in detail.

SECTION - B

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

(5×12=60)

- 11) Discuss the history and evolution of HTML.
 - 12) Compare old HTML versions with HTML5, highlighting key improvements.
 - 13) Explain different content model categories with examples.
 - 14) Create a web page showcasing famous tourist spots using block elements and phrasing elements.
 - 15) Create a styled web page using CSS to describe your city or place.
 - 16) Compare the styling of a web page using inline, internal and external CSS.
 - 17) How do you create a timetable webpage using tables and CSS layout techniques?
 - 18) Explain the role of headers, footers and navigation bars in web design.
 - 19) Create a webpage displaying college day activities with audio and video elements.
 - 20) Describe the process of manipulating images and creating sprites in web design.
-

**FOUR YEAR HONOURS B.B.A. (GENERAL)/B.Com.(GENERAL/
COMPUTER APPLICATION) DEGREE**

EXAMINATION, APRIL/MAY-2025

CHOICE BASED CREDIT SYSTEM

FOURTH SEMESTER-MINOR

PART-II : BUSINESS MANAGEMENT

PAPER-10 : HUMAN RESOURCE 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. What is Human Resource Management (HRM)?
2. List any three functions of HRM.
3. What is the role of an HR manager in a company?
4. Define job analysis in simple terms.
5. What do you mean by recruitment?
6. Name any three sources of recruitment.
7. What is training? Why is it important?
8. What is the difference between training and development?
9. Define performance appraisal.
10. What is meant by industrial relations?

SECTION - B

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

(5×12=60)

1. Explain the nature and importance of Human Resource Management.
 2. Describe the advisory and service functions of the HR department.
 3. What is job analysis? How does it help in job description and job specification?
 4. Explain the stages in the selection process.
 5. Describe the steps involved in designing a training program.
 6. Compare and contrast on -the-job and off-the -job training methods.
 7. Explain the process of performance appraisal with examples.
 8. What are the objectives and benefits of industrial relations?
 9. What are industrial disputes? Briefly explain their types.
 10. Describe the process and importance of collective bargaining.
-

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 - 2025

CHOICE BASED CREDIT SYSTEM

FOURTH SEMESTER

PART - I(D) : MULTIDISCIPLINARY COURSE

PAPER - IV : INTRODUCTION TO NANOTECHNOLOGY

(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.

(5×10=50)

1. Define Nanotechnology and write about its scope.
2. Describe the historical development of nanotechnology with reference to key milestones.
3. Explain how the surface-to-volume ratio affects the behavior of nanomaterials.
4. What are nanomaterials? Discuss the different types such as nanoparticles, nanotubes and nanocomposites with suitable examples.
5. What is top-down fabrication? Explain how lithography technique is used in creating nanostructures.
6. Define bottom-up fabrication. Describe how self-assembly is used to build nanoscale structures.
7. Discuss how spectroscopy is used to study the properties of nanomaterials.
8. Discuss the potential environmental risks posed by the release of nanoparticles into the environment.
9. Discuss the major ethical issues in the development and use of nanotechnology.
10. Discuss the future challenges in the field of nanotechnology, especially in area like nanomedicine.

**FOUR YEAR HONOURS B.B.A. (General) /B.Com. (General/Computer
Application) DEGREE EXAMINATION, APRIL/MAY - 2025**

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. Importance of financial management.
2. Three key decision areas in financial management.
3. Profitability Index.
4. Capital rationing.
5. State the importance of Cost of Capital.
6. Explain the computation of Financial Leverage.
7. What is a constant payout ratio policy?
8. List down the advantages of stable dividend policy.
9. Gross Working Capital Vs Net Working Capital.
10. EOQ

SECTION - B

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

(5×12=60)

11. Explain the nature and scope of financial management.
12. Discuss the objectives of financial management in detail.
13. Find out the net present value for the following projects, assuming that the cost of capital is 10 per cent. The initial investment for Project - X is Rs. 2,00,000 and Project - Y is Rs. 2,50,000

Year	Project-X	Project-Y
	Net Cash Inflows After-tax (Rs.)	Net Cash Inflows After-tax (Rs.)
1	60,000	30,000
2	70,000	50,000
3	80,000	90,000
4	50,000	70,000
5	-	50,000
6	-	40,000

Which project do you recommend under PBP method?

14. Explain the merits and demerits of Accounting Rate of Return Method.
15. State the importance of Cost of Capital.
16. Describe the determinants of capital structure.
17. What are the different forms of dividends?
18. Describe in detail the theories of dividend.
19. Summarise the various advantages of working capital.
20. Explain the various techniques in Inventory management.