

BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)

B.C.A. Sem-II : WINTER- 2022

SUBJECT : COMPUTER ORGANIZATION & ARCHITECTURE

Day : Thursday

Time : 02:00 PM-05:00 PM

Date : 8/12/2022

W-18759-2022

Max. Marks : 60

N.B.:

- 1) Q. No. 4 from Section –I is **COMPULSORY**.
- 2) Answer any **TWO** questions from Questions 1, 2 & 3 in **Section –I**.
- 3) Answer any **TWO** questions from Questions 5, 6 & 7 in **Section –II**.
- 4) Figures to the right indicate **FULL** marks.
- 5) Answers to both the sections should be written in **SAME** answer book.

SECTION-I

- Q.1 a) With the help proper diagram discuss in detail Binary Counter. (06)
b) What is Cache Memory? Explain set associative mapping method. (06)
- Q.2 a) Draw flow chart of Interrupt Cycle and explain step by step. (06)
b) What are general purpose and special purpose Registers in computer. (06)
- Q.3 a) What is Combinational Circuit? Discuss in detail Full Adder. (06)
b) What is DMA? Discuss direct memory access in detail. (06)
- Q.4 Write short notes on any **THREE** of the following: (12)
a) RISC
b) Addressing Notes
c) Memory Management
d) Logic gates
e) Memory reference instructions

SECTION-II

- Q.5 a) Explain memory reference instructions: (06)
i) LDA : load to AC
ii) STA: store AC
b) Simplify the following Boolean Function using K-map. (06)
 $F(x, y, z) = \sum (0, 2, 3, 4, 6)$
- Q.6 Solve the following: (12)
a) Draw the circuit diagram and tabulate the truth table.
 $A'(A+B) + (B+A)(A+B')$
b) $10010 * 011$
c) Simplify $Z = A[B + C(AB + AC)]$
- Q.7 A sequential circuit with two D flip-flops A and B, two inputs x and y and one output Z is specified by the following input equations: (12)
 $D_A = x'B + yA$
 $D_B = x + y'A$
 $Z = y'B + x'y$
i) Draw logic diagram
ii) Derive the state diagram
iii) Derive the state table

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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)
B.C.A. Sem-II : WINTER- 2022
SUBJECT : DBMS-I

Day : Saturday

Time : 02:00 PM-05:00 PM

Date : 10/12/2022

W-18760-2022

Max. Marks : 60

N.B.

- 1) Q.4 from Section – I is **COMPULSORY**.
 - 2) Answer **ANY TWO** questions from Q.1, 2, 3 in Section – I
 - 3) Answer **ANY TWO** questions from Q.5, 6, 7 in Section – II
 - 4) All questions carry **EQUAL** marks.
 - 5) Draw neat and labelled diagrams **WHEREVER** necessary.
 - 6) Answers to both the sections should be written in **SAME** answer book.
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SECTION – I

- Q.1** Answer the following: (12)
- a) Data independence and its types
 - b) Types of database systems
- Q.2** Explain CODD's rules that qualify database as a relational database. (12)
- Q.3** What is normalization? Explain the process of 1NF, 2NF and 3NF with an examples. (12)
- Q.4** Write short notes on the following **ANY THREE**: (12)
- a) Database schema
 - b) Compare and contrast database system with conventional file system.
 - c) Referential integrity
 - d) State transition diagram of transaction
 - e) Functions of DBA

SECTION – II

- Q.5** Draw an Entity Relationship Diagram for the following scenario. (12)
Departments, identified by ID, operate a variety of printers, each located in a particular room in particular building. Printers are supplied by a number of suppliers, identified by name, with each supplier charging a different price for a given printer, but also providing different delivery delays, measured in days. A given room can have a number of printers including none.
- Q.6** Discuss about different types of failures. Explain log based recovery mechanism in detail. (12)
- Q.7** What is concurrency control? Why is it required? Explain in detail about time stamp based concurrency control techniques. (12)

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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)

B.C.A. Sem-II : WINTER- 2022

SUBJECT : C PROGRAMMING-II

Day : Monday

Time : 02:00 PM-05:00 PM

Date : 12/12/2022

W-18761-2022

Max. Marks : 60

N.B.

- 1) Q. No. 4 is **COMPULSORY**.
 - 2) Answers any **TWO** questions from Q. No. 1, 2, 3 from Section – I.
 - 3) Answers any **TWO** questions from Q. No. 5, 6, 7 from Section – II.
 - 4) Figure to the right indicate **FULL** marks
 - 5) Answers to both sections should be written in **SAME** answer book.
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SECTION - I

- Q.1** What is one dimensional array? Explain its operations like insertion, deletion and traversal in detail. (12)
- Q.2** Define linked list. Explain in brief its advantages and types. (12)
- Q.3** Define Stack. List various operations performed on stack. Write a C code to implement Push and Pop operation. (12)
- Q.4** Write short notes on any **THREE** of the following: (12)
- a) Pre – conditions and post conditions
 - b) Breadth first traversal
 - c) Linear search
 - d) Two – dimensional array

SECTION - II

- Q.5** What is a file? Why do we need to store data in files? Write a C program to copy the contents of one file to another file and display both file contents on console. (12)
- Q.6** What is sorting? State different sorting techniques in detail. (12)
- Q.7 a)** Define queue. Describe its applications and types in detail. (06)
- b)** Explain binary tree and its properties in detail. (06)

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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)

B.C.A. Sem-II : WINTER- 2022

SUBJECT : FINANCIAL ACCOUNTING

Day : Wednesday

Time : 02:00 PM-05:00 PM

Date : 14-12-2022

W-18762-2022

Max. Marks : 60

N.B.

- 1) **Q. No. 4** from **Section – I** is **COMPULSORY**.
- 2) Attempt **ANY TWO** questions from Q. No. **1** to Q. No. **3** in **Section – I**.
- 3) Attempt **ANY TWO** questions from Q. No. **5** to Q. No. **7** in **Section – II**.
- 4) Figures to the right indicate **FULL** marks.
- 5) Both the sections should be written in **SAME** answer books.

SECTION - I

- Q.1** Define 'Financial Accounting'. State who are the end-users of Financial Statements? (12)
- Q.2** Define Accounting Principles and Explain the various Accounting Concepts in detail. (12)
- Q.3** Explain the following:
- a) Meaning and Utility of Ledger (06)
 - b) Meaning and Purpose of Trial Balance (06)
- Q.4** Write short notes on **ANY THREE** of the following : (12)
- a) Rules of Journalizing
 - b) Systems of Book-Keeping
 - c) Purchase Book and Sales Book
 - d) Tally Package
 - e) Convention of Materiality

SECTION - II

- Q.5** Record the following transactions in the Cash Book: (12)

Date	Particulars
1 st March	Opening Balance: Cash Rs. 30,000, Bank Rs. 40,000
4 th March	Rent paid by cheque Rs. 2,000
6 th March	Received on account of cash sales Rs. 3,000
8 th March	Paid to Swami Brothers by cheque Rs. 2,000 and earned Rs. 200 as cash discount.
10 th March	Received from Suresh by cheque Rs. 2,000 and allowed him Rs. 100 as cash discount.
12 th March	Cash sales Rs. 20,000
20 th March	Cash purchases Rs. 15,000
31 st March	Salaries paid Rs. 5,000

P.T.O.

Q.6

Following is the Trial Balance of Suman as on 31st March, 2022. Prepare a Trading and Profit & Loss Account and Balance Sheet after taking into account the adjustments given below: **(12)**

Trial Balance :

Particulars	Debit (Rs.)	Credit (Rs.)
Capital	-	30,000
Drawings	5000	-
Purchases	40,000	-
Carriage Outwards	500	-
Purchases Returns	-	1,000
Sundry Expenses	800	-
Bad Debts	300	-
Sales	-	60,000
Postage	200	-
Wages	1,000	-
Bills Payable	-	3,000
Discount Allowed	500	-
Land and Buildings	18,000	-
Plant and Machinery	7,500	-
Creditors	-	8,500
Debtors	10,500	-
Salary	1,500	-
Investments	3,000	-
Opening stock	13,200	-
Cash	500	-
	1,02,500	1,02,500

Adjustments:

- i) Closing stock Rs. 10,300
- ii) Create Reserve for Doubtful debts @ 5 %
- iii) Depreciation on Plant and Machinery @ 6%
- iv) Salary Outstanding Rs. 400
- v) Interest on Investment Accrued Rs. 90
- vi) Wages paid in advance Rs. 50

Q.7

Write a detailed note on 'Computerized Accounting'. **(12)**

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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)
B.C.A. Sem-II : WINTER- 2022
SUBJECT : PRINCIPLES OF MANAGEMENT

Day : Friday

Time : 02:00 PM-05:00 PM

Date : 16-12-2022

W-18763-2022

Max. Marks : 60

N.B :

- 1) **Q. No. 5** from **Section – I** is **COMPULSORY**.
 - 2) Solve **Any TWO** from **Q.No.1** to **Q. No.4** in **Section – I**.
 - 3) Solve **Any TWO** from **Q.No.6** to **Q. No.8** in **Section – II**.
 - 4) Figures to the right indicate **FULL** marks.
 - 5) Answers to both sections should be written in **SAME** answer book.
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SECTION - I

- Q.1** a) Differentiate between management and administration. **(06)**
- b) Discuss functions of management in detail. **(06)**
- Q.2** a) State in detail steps involved in decision making process. **(06)**
- b) Discuss process of setting objectives for a business firm. **(06)**
- Q.3** a) State importance of organization structure. **(06)**
- b) What is recruitment? State different sources of recruitment. **(06)**
- Q.4** a) Discuss in detail steps involved in selection process. **(06)**
- b) Define leadership. What are the different types of leadership? **(06)**
- Q.5** Write short note on **ANY THREE** of the following: **(12)**
- a) Zero based budgeting
- b) Use of IT in controlling
- c) Decentralization
- d) Positive and negative motivation

SECTION - II

- Q.6** ‘Planning and Controlling are interlinked with each other.’ Elaborate. **(12)**
- Q.7** Design the organization structure for a private bank who provides multiple services to customers. Support your answer with appropriate reasons. **(12)**
- Q.8** State use of Henry Fayol’s principles in today’s business firms. **(12)**

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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)
B.C.A. Sem-II : WINTER- 2022
SUBJECT : ENVIRONMENTAL STUDIES

Day : Saturday

Time : 02:00 PM-05:00 PM

Date : 17-12-2022

W-18765-2022

Max. Marks : 60

N.B.:

- 1) Attempt **ANY THREE** questions from Section-I and **ANY TWO** questions from Section –II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both sections should be written in the **SAME** answer book.

SECTION-I

- Q.1** What is greenhouse effect? Explain how human activity has resulted in increased emissions of greenhouse gases? Elaborate. (10)
- Q.2** Write the impacts of modern agriculture on soil. (10)
- Q.3** What are the different types of biodiversity conservation? (10)
- Q.4** Write about energy flow in an Ecosystem. Draw suitable diagrams. (10)
- Q.5** Write short notes on (ANY TWO): (10)
- a) Floods and Droughts
 - b) E-waste management
 - c) Environmental ethics
 - d) Human Rights

SECTION-II

- Q.6** “Reuse strategy is better than Recycling”. (15)
- i) Elaborate above statement with suitable example.
 - ii) State your views on above statement as a student of Environmental studies.
- Q.7** Acid rain is causing damage to monuments/ buildings etc. and also harms the flora and fauna. As an environmentalist, how will you address this issue? Suggest control measures for the same with suitable examples. (15)
- Q.8** “Decomposers facilitate recycling of matter in order to maintain balance in ecosystem”. Explain with suitable examples. (15)

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