UG–125 **CCE**

U.G. DEGREE EXAMINATION – DECEMBER, 2018.

Second Year

ENVIRONMENTAL STUDIES

Time : 3 hours Maximum marks : 75

PART A — (3 × 5 = 15 marks)

Answer any THREE questions.

Each answer should not exceed 2 pages.

1. Discuss the nature and scope of environmental studies.

   சுற்றுச்சூழல் ஆய்வுகளின் இயல்பையும் நோக்கத்தையும் பற்றி விவாதிக்கவும்.

2. Give a short note on energy resources.

   ஆற்றல் வளங்கள் – விளக்கவும்.

3. Write a brief account of ecosystem.

   சுற்றுச் சூழலியல் அமைப்பு – விளக்கவும்.

4. What are the causes for water pollution?

நீர் மாசுக்கான காரணங்கள் யாவை?

5. Explain any five strategies of disaster management.

பேரிடர் மேலாண்மையின் ஏதேனும் ஐந்து திட்டங்களை விளக்கவும்.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

Each answer should not exceed 5 pages.

6. Explain the significance of environmental studies.

சுற்றுச்சூழல் ஆய்வுகளின் முக்கியத்துவத்தை விளக்கவும்.

7. Write a detailed note on "Need and importance of Environmental Education".

சுற்றுச்சூழல் கல்வியின் தேவை மற்றும் முக்கியத்துவத்தை விளக்கவும்.

8. What are the threats to biodiversity? Explain.

பல்லுயிரியலுக்கான அச்சுறுத்தல்கள் என்ன விளக்கவும்.

9. Analyze the role of an individual in prevention of pollution.

மாசு குறைபாட்டை தடுக்கும் ஒரு நபர் பங்கை ஆராயவும்.

10. Explain the significance of Environmental ethics.

சுற்றுச்சூழல் நெறிமுறைகள் – முக்கியத்துவத்தை விளக்கவும்.

11. Explain the significance of solid waste management.

திட கழிவு மேலாண்மை – முக்கியத்துவத்தை விளக்கவும்.

12. Explain how environment influences human health.

சுற்றுச்சூழல் மனித ஆரோக்கியத்தை எவ்வாறு பாதிக்கிறது என்பதை விளக்கவும்.

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UG–478 **BSCS-07**

B.Sc. DEGREE EXAMINATION – DECEMBER, 2018.

Second Year

Computer Science

APPLIED OPERATIONS RESEARCH

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. What are the Limitations of an O.R models?

2. Computer all the basic feasible solution to the LP problem.

Maximize $Z = 2x_1 + 3x_2 + 4x_3 + 7x_4$

Subject to the constraints $2x_1 + 3x_2 - x_3 + 4x_4 = 8$

$x_1 - 2x_2 + 6x_2 - 7x_4 = -3$

and $x_1, x_2, x_3, x_4, \geq 0$.

3. Discuss about the Branch and Bound algorithm for solving a mixed integer programming problem.

4. Describe the terms (a) Total float (b) Free float (c) Independent float.

5. State the principal assumptions made while dealing with sequencing problems.

6. We have five jobs, each of which must be processed on the two machines A and B in the order AB. Processing times in hours are given in the table below.

Job	1	2	3	4	5
Machine A	5	1	9	3	10
Machine A	2	6	7	8	4

Determine a sequence for the five jobs that will minimize the elapsed time T.

7. Distinguish between Individual and Group replacement polices.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Explain about the different phases of OR.

9. Use simplex method to solve the following LPP.

Maximize $Z = 4x_1 + 10x_2$
Subject to
$2x_1 + x_2 \leq 50$
$2x_1 + 5x_2 \leq 100$
$2x_1 + 3x_2 \leq 90$
$x_1, x_1 \geq 0.$

10. By dynamic programming technique, solve the problem.

Min $Z = x_1^2 + x_2^2 + x_3^2$
Subject to the constraints
$x_1 + x_2 + x_3 \geq 15$
& $x_1, x_2, x_3, \geq 0.$

11. How to do the same effectively and efficiently? Explain its components.

12. Find the sequence that minimizes the total elapsed time required to complete the following tasks on the machines in the order 1-2-3. Find also the minimum total elapsed time (hours) and the idle times on the machines.

Task	A	B	C	D	E	F	G
Time on							
Machine 1	3	8	7	4	9	8	7
Machine 2	4	3	2	5	1	4	3
Machine 3	6	7	5	11	5	6	12

13. The cost of a machine is Rs. 6100 and its scrap value is Rs 100. The maintenance costs found from experience are as follows.

Year	1	2	3	4	5	6	7	8
Maintenance	100	250	400	600	900	1250	1600	2000

When the machine should be replaced?

14. Explain about the Group replacement and individual policy.

UG-479 **BSCS–08**

B.Sc. DEGREE EXAMINATION – DECEMBER, 2018.

Second Year

Computer Science

DESIGN AND ANALYSIS OF ALGORITHMS

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Elaborate the algorithms.
2. Write short note on Programme testing.
3. Explain about the Big-O notation.
4. Define Recurrences. Write about the substitution method.
5. Write short notes on Hill climbing.
6. Mention about the Factorial using recursion.
7. Write about the Bubble Sort with suitable example.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Explain about the Knight's tour.

9. Discuss about the correctness of the algorithm.

10. Elaborate about the Growth of function.

11. Discuss about the Recurrences Master method.

12. Explain in detail about the Jeep Problem.

13. Briefly explain about the Branch and Bound with suitable example.

14. Discuss about the Linear Search with suitable example.

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UG-480 **BSCS–09**

B.Sc. DEGREE EXAMINATION –
DECEMBER, 2018.

Second Year

Computer Science

OBJECT ORIENTED PROGRAMMING WITH C++

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Discuss the benefits of OOP.

2. What is the application of scope resolution operator :: in C++?

3. Write a C++ program to find the sum of natural numbers.

4. Write short notes on Constructor and Destructor.

5. List out the rules for operator overloading.

6. Write short notes on Virtual functions.

7. Explain about command line arguments.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Explain the concepts of Object oriented programming in detail.

9. Explain the storage classes with example.

10. Explain the following.

    (a) Friend function.

    (b) Inline function.

11. Explain in detail about function overloading with an example.

12. Write a C++ program to find the factorial.

13. Explain about C++ function with an example in detail.

14. Explain Exception handling with an example.

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UG-481 **BSCS–10**

B.Sc. DEGREE EXAMINATION – DECEMBER, 2018.

Second Year

Computer Science

INTRODUCTION TO DATABASE MANAGEMENT SYSTEM

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Discuss about three views of Data.
2. What are the advantages and disadvantages of DBMS?
3. Write short notes on Variable Length Record.
4. Discuss about evaluation of DBMS.
5. Discuss about Boyce Code Normal form.
6. Write short notes on Distributed database.
7. Explain about SQL Transaction Control Language commands.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Explain types of Data models.

9. Discuss about any two file organization methods.

10. Explain in details First Normal Form and Second Normal Form.

11. Discuss on converting a class diagram to Normalized tables with example.

12. Explain about SQL Data Definition Language statements.

13. Explain the structure of distributed database.

14. Explain the various elements of DBMS.

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UG–482 **BSCS–11**

B.Sc. DEGREE EXAMINATION — DECEMBER, 2018.

Second Year

Computer Science

ACCOUNTING AND FINANCIAL MANAGEMENT

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Explain the concepts of Financial Accounting.

2. What are the objectives of analysis and interpretation of financial statement?

3. Find out Closing stock

   Current Liabilities Rs. 3,00,000

   Current Ratio 3 : 1 and

   Liquid Ratio 1 : 1

4. From the following Balance Sheet prepare a schedule of changes in working capital.

Liabilities	31.12.16	31.12.17	Assets	31.12.16	31.12.17
	Rs.	Rs.		Rs.	Rs.
Capital	2,00,000	2,50,000	Land	1,00,000	1,30,000
Retained earnings	80,000	1,00,000	Stock	1,20,000	1,30,000
Accounting payable	80,000	90,000	Account receivables	80,000	1,00,000
			Cash	60,000	80,000
	3,60,0000	4,40,000		3,60,000	4,40,000

5. What are the advantages of Budgetary control?

6. Calculate

   (a) P/V Ratio

   (b) BEP from the following information

   Period I Sales Rs. 20 lakhs : Profit Rs. 2 lakhs

   Period II Sales Rs. 30 lakhs : Profit Rs. 4 lakhs

7. From the following particulars prepare a production budget of a ABC company for the year ended June 30th 2015

Product	Sale (unit) (As per sales budget)	Estimated stock	
		1.7.2014	30.6.2015
A	1,50,000	14,000	15,000
B	1,00,000	5,000	14,500
C	70,000	8,000	8,000

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. The following information was extracted from the books of M/S Sudha Ltd. Prepare final accounts on 31.3.2017.

Particulars	Debit /Rs.	Particulars	Credit/Rs.
Opening stock	25,000	Sales	1,45,000
Sales returns	5,000	Purchase returns	2,500
Purchases	1,22,500	Discount received	300
Carriage inwards	2,000	Capital	1,36,450
Carriage outwards	3,000	Bill payable	7,500
Wages	6,000		
Salaries	9,000		
Printing and stationary	450		
Discount allowed	450		
Depreciation	1,500		
Building	1,04,050		
Trade expenses	2,800		
Bills receivables	10,000		
	2,91,750		2,91,750

Adjustments

(a) Closing stock 32,500

(b) Outstanding wages Rs. 1,500

9. From the following profit and loss a/c and Balance sheet of Governor Industries, Prepare a comparative Income statement.

Profit and Loss A/c for the year ending 2016-17

Liabilities	2016 Rs.	2017 Rs.	Assets	2016 Rs.	2017 Rs.
To cost of goods sold	5,00,000	6,40,000	By sales	7,00,000	9,00,000
To operating expenses					
Administrative expenses	20,000	20,000			
Selling expenses	30,000	40,000			
To net profit	1,50,000	2,00,000			
	7,00,000	9,00,000		7,00,000	9,00,000

10. From the following information, prepare balance sheet

(a) Current Ratio : 2.5

(b) Liquid Ratio : 1.5

(c) Proprietary Ratio : 0.75 (Fixed assets / proprietary fund)

(d) Working capital Rs. 1,20,000

(e) Reserves and surplus Rs. 80,000

(f) Bank overdraft Rs. 10,000.

11. From the following summarized balance sheet of a company prepare cash flow statement.

Particulars	2015	2016	Particulars	2015	2016
	Rs.	Rs.		Rs.	Rs.
Share capital	2,00,000	2,50,000	Building	2,00,000	1,90,000
General reserve	50,000	60,000	Machinery	1,50,000	1,69,000
P and L a/c	30,500	30,600	Stock	1,00,000	79,000
Long term loan	70,000	—	Debtors	80,500	64,200
Creditors	1,50,000	1,35,200	Cash	—	8,600
Provision for taxation	30,000	35,000			
	5,30,500	5,10,800		5,30,500	5,10,800

Additional information:

(a) Dividend paid Rs. 23,000.

(b) Purchase of Machinery Rs. 38,000.

(c) Depreciation written off on machinery Rs. 12,000

(d) Income tax provided in the year Rs. 33,000

(e) Loss on sales of Machinery Rs. 1,200 written off to General Reserve.

12. What is zero base budgeting and its advantages and disadvantages?

13. Explain the factors determing the working capital.

14. The records of a company show the following

Year	Sales	Profit
2014	1,20,000	9,000
2015	1,40,000	13,000

Find out:

(a) P/V Ratio

(b) Break-even point

(c) Profit when sales are Rs. 1,00,000

(d) Sales required to earn profit of Rs. 20,000

(e) Margin of safety for year 2015.

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UG–483 **BSCS–12**

B.Sc. DEGREE EXAMINATION – DECEMBER, 2018.

Second Year

Computer Science

MANAGEMENT INFORMATION SYSTEMS

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Discuss the importance of MIS.

2. Write Short notes on DFD.

3. Discuss the advantage and disadvantage of MIS.

4. List down the functions of Manager.

5. Describe the advantages and disadvantages of Executive information system.

6. Write short notes on TPS.

7. List the approaches to the management.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Explain the stages of System Development Life Cycle in detail.

9. Explain the following :

   (a) Data dictionary (b) Decision trees.

10. Define DSS. Explain the classification of DSS in detail.

11. Explain about executive information system.

12. What is system design? Explain its types in detail.

13. Discuss the functions Quality information system.

14. What are the functions of the management as a control system?

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UG–484 **BSCS–13**

B.Sc. DEGREE EXAMINATION — DECEMBER 2018.

Second Year

PRINCIPLES OF MANAGEMENT

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. What are the functions of management?

2. Justify the statement – "Management as an art".

3. Elucidate the role of process in planning.

4. Outline the policies involved in planning.

5. Explain the characteristics of span of control briefly.

6. Write short notes on selection process.

7. Highlight the importance and functions of control.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Discuss about the evolution of management thoughts.

9. Briefly explain the types of planning.

10. Elaborate the management by objectives.

11. Illustrate the organisation structure clearly.

12. With clear explanation explain the line and staff relationship.

13. Describe the sources of recruitment and selection process.

14. Distinguish the budgetary and non budgetary control.

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UG–485 **BSCS–14**

B.Sc. DEGREE EXAMINATION – DECEMBER, 2018.

Second Year

Computer Science

MANAGING INFORMATION TECHNOLOGY

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Discuss about role of CAO.
2. Write short notes about chief technical officer.
3. Explain product supply innovation by IT.
4. Discuss about importance of IT Trends
5. Write short notes on IT Asset management.
6. Discuss about the information system.
7. Explain overview of computer security.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Discuss about Chief Knowledge Office.

9. Briefly explain about business innovation.

10. Explain construction of information system architecture.

11. Discuss about IT process management

12. Explain the advantage of computer security.

13. Discuss about preparation of IT master plans.

14. Explain system cost management.

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