Mar Gregorios College of Arts & Science
Model Examination, April-2023
Department of Computer Applications – Shift I

Class: II BCA
Subject Name: Ecommerce Technologies
Subject Code: SZ24C

Date: 12.04.2023
Duration: 2 Hr
Max Marks: 50

Section A
Answer any FIVE Questions (5*2=10 marks)

1. Write a note on TELNET.
2. Define Digital Currency.
3. Define IPv6.
4. What are the benefits of an internet firewall?
5. What HRIS means?
6. What are the applications of wireless Communications?
7. What is Cell Splitting?

Section B
Answer any FOUR Questions (4*5=20 marks)

8. Write down the network and website security risks.
9. Elaborate the requirements of digital payment.
10. What are the functions of routers? Explain.
11. Explain in detail about Software agents.
12. Explain the categories of e commerce portals.
13. What is the Security Issues Pertaining to Cellular Technology?

Section C
Answer any TWO Questions (2*10=20 marks)

14. What are the various components of Firewall? Explain.
15. Discuss the NASSCOMs security and flagship initiatives.
16. Discuss about the Technologies for Mobile Commerce.

MAR GREGORIOS COLLEGE OF ARTS &SCIENCE
MODEL EXAMINATION APRIL - 2023
DEPARTMENT OF B.COM (A & F) - SHIFT I

DATE: 12/04/2023
CLASS: II B.COM (A&F)
SUBJECT: WORKING CAPITAL MANAGEMENT

MARKS: 50
TIME: 2Hr.
SUBJECT CODE: CA24B

PART –A (5x2=10) ANY FIVE

1. What is meant by receivable management?
2. Give the formula for average collection period.
3. Define the term Inventory.
4. State the meaning of VED analysis.
5. Write short notes on capital finance.
6. What is EOQ?
7. Define optimum cash balance.

PART –B (4x5 = 20) ANY FOUR

8. Narrate the objectives of receivable management.
9. Discuss about the purpose of holding inventory.
10. Calculate the economic order quantity from the following particulars

Annual usage	20,000 units
Buying cost per order	Rs. 10
Cost per unit	Rs. 100

11. Find out average collection period from the following information given:

Particulars	Rs
Total sales	2,50,000
Cash sales	60,000
Sales return	24,000
Total debtors at the end	28,000
Bills receivable at the end	12,000
Provision for bad debts	1,500
Sundry creditors	29,000

12. From the following calculate inventory turnover ratio and average stock holding in terms of number of days.

Opening stock	Rs. 90,000
Purchase during the year	Rs. 2,70,000
Closing stock	Rs 1,10,000

13. Calculate cash operating cycle for the year 2021 from the following details;

	Rs
Sales	12,00,000
Purchase	8,50,000
Cost of goods sold	8,75,000
Average debtors	1,80000

Average creditors	90,000
Average stock	1,60,000

All sales and purchase are made on credit and assume 360 days in a year.

PART – C (2x10 = 20) ANY TWO

14. Explain the factors, objectives and various techniques of inventory management.
15. Describe the different approaches to financing current assets.
16. The components A and B are used as follows:

Average consumption	40 units
Normal usage	50 units per week
Minimum usage	25 units per week
Re-order quantity	
A :	300 units
B :	500 units
Re-order Period	
A :	4 to 6 weeks
B :	2 to 4 weeks
Maximum lead time for emergency purchase	
A :	1 day
B :	2 days

Calculate for the each component:

i. Re-order level
ii. Minimum level
iii. Maximum stock level
iv. Average level
v. Danger level.

MAR GREGORIOS COLLEGE OF ARTS & SCIENCE

MODEL EXAM – April 2023

DEPARTMENT OF COMPUTER SCIENCE - Shift II

Class : IIIB.Sc (CSC) Date:6/4/23

Subject Name:Introduction to Data Science Duration: 2hrs

Subject Code: SE26B Marks: 50

SECTION – A

Answer Any FIVE Questions. (5x 2 = 10)

1. What is Data Science?
2. What is the purpose of Project Charter?
3. What are the steps involved in Model Building?
4. What is Machine Learning?
5. List the evaluation metrics in Data Modelling.
6. List the components of Apache Spark.
7. Write the features of Qlik Sense.

SECTION – B

Answer any FOUR Questions. (4 x 5 = 20)

8. Explain any two Data Analytics with examples.
9. What is the flow of Data Science Process? Explain the steps involved in it.
10. What is Data Transformation? Explain how to transform data variables,
11. Explain the validation strategy.
12. Briefly describe about the regularization techniques in machine learning.
13. Explain Map Reduce Model.

SECTION – C

Answer any TWO Questions. (2 x 10 = 20)

14. What is Data Exploration Phase? Explain the different graphs that help in exploring the data.
15. Explain the process of Machine Learning in Data Science.
16. Explain the NoSQL datatypes in detail.

MAR GREGOROIS COLLEGE OF ARTS & SCIENCE
MODEL EXAM - APRIL 2023
Department of Commerce

Class: III B.com (Gen)
Subject Name: Management Accounting
Subject Code: CZ26B

Date: 06 /04/2023
Duration: 2 hour
Max Marks: 50

SECTION A

I Answer any Five Questions: (5 x 2=10 marks)

1. State the meaning of Management Accounting.
2. Define Trend Analysis.
3. Calculate P.V. Ratio. Sales Rs. 30,000. Variable Cost Rs. 10,000.
4. Write a note on Break-Even Point.
5. What is Zero – Base Budgeting?
6. What do you meant by Buy or Make Concept?
7. What is Known as Flexible Budget

SECTION B

II Answer any Four questions. (4x 5=20 marks)

8. Differentiate between Cost Accounting and Management Accounting.
9. Calculate the Trend Percentage from the following data :

	2015	2016	2017	2018
Assets	Rs.	Rs.	Rs.	Rs.
Cash	100	120	80	140
Debtors	200	250	325	400
Stock	300	400	350	500
Other current assets	50	75	125	150
Land	400	500	500	500
Building	800	1,000	1,200	1,500
Plant	1,000	1,000	1,200	1,500
	2,850	3,345	3,780	4,690

10. Calculate: (a) Current Assets, (b) Current Liabilities, (c) Liquid Assets, (d) Stock Current ratio = 2.5, Liquid ratio = 1.5, Working capital Rs. 90,000.

11. From the following balances you are required to calculate Cash From Operations :

	31.12.2017 (Rs.)	31.12.2018 (Rs.)
Debtors	50,000	47,000
Bills Receivable	10,000	12,500
Creditors	20,000	25,000
Bills payable	8,000	6,000
Outstanding expenses	1,000	1,200

Prepaid expenses	800	700
Accrued Income	600	750
Income Received in advance	300	250
Profit made during the year	1,30,000	

12. Prepare a production budget for 3 months ending March 1986 for factor producing four products on the basis of the following information:

Types of Product	Estimated stock on January 1st, 1986 (units)	Estimated sales on January - March, 1986 (units)	Desired stock on 31st March, 1986 (units)
A	2000	10000	5000
B	3000	15000	4000
C	4000	13000	3000
D	5000	12000	2000

13. From the following details, make out a statement of proprietary funds:

a) Long-term Loans - Rs.50,000, b) Working Capital – Rs. 80,000,
c) Reserve to capital – 1: 2, d) Current Ratio: 2 times,
e) Liquid Asset: 1.4 times, f) Fixed assets to proprietors' funds 0.6,
g) There is no fictitious or intangible assets.

Section C

III Answer any Two Questions: **(2x10=20marks)**

14. The Balance Sheet of Mr. Deepan on 01.01.2017 and 31.12.2017 were as follows :

Liabilities	1.1.2017 Rs.	31.12.2017 Rs.	Assets	1.1.2017 Rs.	31.12.2017 Rs.
Creditors	40,000	44,000	Cash	10,000	7,000
Mr.Deepan Loan	25,000	—	Debtors	30,000	50,000
Loan from bank	40,000	50,000	Stock	35,000	25,000
Capital	1,25,000	1,53,000	Machinery	80,000	55,000
Land	40,000	50,000			
Building	35,000	60,000			
	2,30,000	2,47,000		2,30,000	2,47,000

.....3

During the year a machine costing Rs. 10,000 (accrued depreciation Rs. 3,000) was sold for Rs. 5,000. The provision for depreciation against machinery as on 1.1.2017 was Rs. 25,000 on 31.12.2017 Rs. 40,000. Net profit for the year 2017 amounted to Rs. 45,000. You are required to prepare Cash Flow Statement.

15. A' Ltd., requires you to prepare Cash Budget in order to arrange overdraft for the month of April to June 2018.

2018	Sales (Rs.)	Purchases (Rs.)	Wages(Rs.)
February	1,80,000	1,24,800	12,000
March	1,92,000	1,44,000	14,000
April	1,08,000	2,43,000	11,000
May	1,74,000	2,46,000	10,000
June	1,26,000	2,68,000	15,000

a) 50% of sales are realised in the same month and the balance will be realised in the following month..
b) Creditors and wages are paid in the following month..
c) The cash balance as on 01.04.2018 Rs. 25,000.

16. From the following balances sheet of X Ltd., you are required to prepare a Comparative Balance Sheet.

Balance Sheet as on 31st December

Liabilities	2016 Rs	2017 Rs.	Assets	2016 Rs.	2017 Rs.
Equity capital	400	400	Land and Buildings	400	370
6%preference capital	300	300	Plant and machinery	400	410
Reserves	200	245	Stock	200	300
8% Debentures	100	150	Debtors	200	300
Bills payable	50	75	Cash	100	140
Creditors	250	350			
	1,300	1,520		1,300	1,520

MAR GREGORIOS COLLEGE OF ARTS & SCIENCE
MODEL EXAMINATION – NOVEMBER 2022
DEPARTMENT OF BUSINESS ADMINISTRATION, SHIFT II

SUB NAME : COMPUTER APPLICATION IN BUSINESS
SUB CODE : BB23C
CLASS : II BBA

DATE : 01/11/22
MARKS: 75
DURATION: 3 HOURS

PART–A (Answer any ten) (10X2=20)

1. What is meant by Word processing?
2. Define Spreadsheet.
3. How to edit the text font?
4. What is meant by record?
5. What is database?
6. What is SQL?
7. Define EDI.
8. Write on benefits if financial EDI.
9. What is ISP?
10. Give expansion for GTLD.
11. What is Information System Audit?
12. What are the types of IP addresses?

PART – B (Answer any five) (5X5=25)

13. Explain on standard features of Word Processors in detail.
14. Explain on spreadsheets in detail.
15. Write about the objectives of DBMS.
16. Write on database sorting.
17. Write a note on EDI standards.
18. Write about networks in detail.
19. Write on conduct and applications of information audit in internet environment.

PART –C (Answer any three) (10X3=30)

20. Explain on formatting the document in detail.
21. Discuss on Financial EDI. Explain in detail.
22. Discuss on searching records. Explain in detail.
23. Explain in detail on internet and its basic concepts.
24. Explain on the basic principles of governing an audit in detail

MAR GREGORIOS COLLEGE OF ARTS & SCIENCE
DEPARTMENT OF COMMERCE SHIFT II
Model Examination, November 2022

CLASS: III B.com
SUBJECT CODE: CZ25C
SUBJECT: Logistics & Supply Chain Management

Date: 02.11.2021
Time: 2.15pm to 5.15pm
Maximum: 75marks.

Part A - Answer any TEN from the following questions (10*2=20 Marks)

1. Define the term Logistics.
2. What are the types of logistics management.
3. What is 4pls in Logistics.
4. What is warehousing?
5. What are functions of warehousing?
6. What is demand forecasting?
7. What is the concept of supply chain management?
8. Types of supply chain management?
9. Explain the term SCOR?
10. What are the five dimensions of SCM?
11. What is bar – coding.
12. What is Transportation?

Part B - (Answer any FIVE from the following questions) (5*5=25 Marks)

13. Explain the types of logistics?
14. Explain the functions of logistics management?
15. Explain the importance of demand forecasting.
16. Enumerate the Principles of Supply Chain Management?
17. Differentiate between 3PLs and 4PLs.
18. Explain the Types of Containerization?
19. What are the Types of benchmarking?

Part C - (Answer any THREE from the following questions) (3*10=30 Marks)

20. Explain the advantages of outsourcing to 3pls?
21. Explain the methods of forecasting?
22. Explain Different types of Transportation methods in Detail.
23. Explain the components in LIS.
24. Explain Lean thinking and six sigma approach in Supply Chain.

MAR GREGORIOS COLLEGE OF ARTS & SCIENCE
Model Examination – November 2022
Department of Computer Science - Shift II

Class: II B.Sc (CS)
Subject Name : Java and Data structures
Subject Code: SE23A

Date: 02-11-2022
Duration: 3 Hours
Max Marks: 75

Section A **Answer any Ten Questions** (10 X 2 =20)

1. What is type casting? Why it is required in programming?
2. Write all Bitwise operators
3. Define multitasking.
4. What is a Stack?
5. What are Constructors?
6. Define Thread
7. Compare multiprocessing and multithreading
8. Write postfix from of the expression –A+B-C+D?
9. Define Queue.
10. Compare pre-order and post-order traversal of tree.
11. Define in-order traversal
12. Define complete binary tree

Section B **Answer any Five Questions** (5* 5 = 25)

13. Write shot notes on classes and objects.
14. Describe the syntax of exception handling mechanism.
15. Explain the java applet life cycle with suitable diagram.
16. Explain the deletion and insertion operations on simple linked list with suitable diagrams
17. Explain in detail insertion into AVL Trees
18. Write short notes on java packages
19. Explain Jump statements in JAVA

Section C **Answer any Three Questions** (3 *10 = 30)

20. Explain the following control statements
    a. If statements
    b. Switch statement
21. Describe different forms of inheritance with an example
22. Explain state transition diagram for multithreaded program.
23. Discuss how Stack can be implemented using Arrays
24. Explain expression tree with suitable diagram

MAR GREGORIOUS COLLEGE OF ARTS & SCIENCE
MODEL EXAM, NOVEMBER 2022
DEPARTMENT OF MATHEMATICS

CLASS : I B.SC (ECS)
Subject Name : Allied Mathematics I
Subject Code : SM3AA

Date : 11.11.2022
Duration : 3 Hrs
Max. Marks : 75

SECTION – A [10X2=20]

ANSWER ANY TEN QUESTIONS

1. Prove that $\nabla=1-E^{-1}$.
2. Write Newton's forward interpolation formula.
3. Define Unitary matrix.
4. Define Symmetric matrix with an example.
5. State Cayley-Hamilton theorem.
6. Define skew symmetric matrix.
7. Expand $\tan 3\theta$ in terms of $\tan\theta$.
8. Write down the real and imaginary parts of sin(x+iy).
9. Write the expansion of Sin nθ.
10. Define circular function.
11. Prove that $\cosh^2 x - \sinh^2 x = 1$.
12. Separate cos(x + iy) into real and imaginary parts.

SECTION – B [5X5=25]

ANSWER ANY FIVE QUESTIONS

13. Find the sum to infinity of the series $1 + \frac{2}{6} + \frac{2.5}{6.12} + \frac{2.5.8}{6.12.18} + \ldots\ldots$
14. Find the value of y at x = 84

X	40	50	60	70	80	90
Y	184	204	226	250	276	304

15. Using Lagrange's interpolation formula find y at x = 2 from the following data

X	0	1	3	4
Y	-12	0	6	12

16. Find the Eigen values and Eigen vectors of the matrix $\begin{pmatrix} 1 & 1 \\ 3 & -1 \end{pmatrix}$
17. Expand Cos 7θ in terms of Cos θ.
18. Expand Sin8θ in a series of cosines multiples of θ.
19. If $\cot\frac{A}{2} = \coth\frac{B}{2}$ prove that cosech B = cot A.

SECTION – C [3x10=30]

ANSWER ANY THREE QUESTIONS

20. Prove that $\sum_{n=0}^{\infty} \frac{(5n+1)}{(2n+1)!} = \frac{e}{2} + \frac{2}{e}$.

21. Find the values of y at x = 0.12 from the following table

X	0.10	0.15	0.20	0.25	0.30
Y	0.1003	0.1511	0.2027	0.2553	0.3093

22. Verify Cayley - Hamilton theorem for the matrix and hence find its inverse

$$\begin{pmatrix} 1 & 2 & 1 \\ 0 & 1 & -1 \\ 3 & -1 & 1 \end{pmatrix}$$

23. Expand $\sin^3 x \cos^5 x$ in series of sines of multiples of x.

24. Find the real and imaginary parts of (i) tan(x+iy) (ii) sech(x+iy).

MAR GREGORIOS COLLEGE OF ARTS &SCIENCE
MODEL EXAMINATION – NOVEMBER, 2022
DEPARTMENT OF COMMERCE (ACCOUNTING & FINANCE) - SHIFT I

DATE: 11/11/2022 MARKS: 75
CLASS: I B.COM (A&F) TIME: 3Hrs.
SUBJECT: Financial Planning and Performance SUBJECT CODE: CA21A

PART –A

ANSWER ANY TEN OF THE FOLLOWING 10x2=20

1. What do you mean by goal?
2. What are key strategic questions?
3. Define budgetary control.
4. What is Master budget?
5. Mention any two objectives of capital budgeting.
6. Define standard costing.
7. What is variance analysis?
8. Mention any two benefits of standard costing.
9. What are the types of responsibility?
10. State the meaning of transfer pricing.
11. What do you mean by balanced scorecard?
12. Write about the Return on Investment.

PART –B

ANSWER ANY FIVE OF THE FOLLOWING 5x5=25

13. What are the five steps in the strategic planning process?
14. What are good questions to ask a strategic planner?
15. What is a flexible budget? How is it prepared?
16. Write a note on IRR method.
17. Bring out the uses of flexible budget.
18. How do you create responsibility report for a cost center?
19. How do you analyze customer profitability?

PART –C

ANSWER ANY THREE OF THE FOLLOWING 3x10=30

20. Explain the internal and external factors affecting strategies.
21. What is performance budgeting? What are the elements involved in it. Explain its purposes.
22. Explain the managerial uses of variance analysis.
23. Discuss main objectives of segment reporting.
24. Write a guideline to calculating return on investment.

MAR GREGORIOS COLLEGE OF ARTS & SCIENCE
MODEL EXAM, NOVEMBER 2022
DEPARTMENT OF MATHEMATICS

Class : I B.SC Mathematics
Subject Name : Differential Calculus
Subject Code : SM21B

Date : 11.11.2022
Duration : 3 Hrs
Max. Marks : 75

SECTION – A [10X2=20]

ANSWER ANY TEN QUESTIONS

1. Find the nth derivative of sin(ax+b).
2. State Leibnitz's theorem.
3. Define a critical point
4. Define envelope.
5. Find the envelope of the family of curves $\frac{x^2}{a^2}+\frac{y^2}{k^2-a^2}=1$,where a is the parameter.
6. Define Curvature.
7. Find the radius of curvature for the curve $y = e^x$ at the point where it crosses the y – axis.
8. Define Involute.
9. Write the formula for the angle of intersection of two curves
10. What is the slope of the tangent in polar co-ordinates?
11. Define an asymptote.
12. Find the vertical and horizontal asymptote of the curve $y(1+x^2) = x+2$.

SECTION – B [5 X5=25]

ANSWER ANY FIVE QUESTIONS

13. Find the nth derivative of $e^{ax}\cos(bx+c)$.
14. Find the extremum of $x^2+xy+y^2+3x-3y+4=0$.
15. Find the radius of curvature at x=c on the curve $xy = c^2$.
16. Find the angle between the radius vector and tangent for the curve $r^2 = a^2\cos2\theta$ at $\theta = \pi/6$.
17. Find the pedal equation of the curve $r^n = a^n \sin n\theta$.
18. Write the rule of finding an asymptote.
19. Show that the evolute of the cycloid $x = a(\theta-\sin\theta)$, $y = a(1-\cos\theta)$ is another cycloid.

SECTION – C [3x10=30]

ANSWER ANY THREE QUESTIONS

20. Prove that if $y = (\sinh^{-1}x)^2$ then $(1+x^2)y_2+xy_1 = 2$ and also prove that $(1+x^2)y_{n+2}+(2n+1)xy_{n+1}+n^2y_n=0$.
21. Find the maximum value of $x^m y^n z^p$ subject to $x+y+z = a$.
22. Find the evolute of the four cusped hypocycloid $x^{2/3}+y^{2/3}=a^{2/3}$.
23. Discuss the maxima and minima of the function $x^3y^2(6-x-y)$.
24. Find the asymptotes of the curve $y^3-6xy^2+11x^2y-6x^3+x+y=0$.