



Study Programmes	: Bachelor of Technology Honours in Engineering Bachelor of Software Engineering
Name of the Examination	: Final Examination
<b>Course Code and Title</b>	<b>: CVM5401 /CVM5402 Accounting for Engineers</b>
Academic Year	: 2021/2022
Date	: 26 <sup>th</sup> February 2023
Time	: 09:30 - 12.30hrs
Duration	: <b>3 hours</b>

### General Instructions

1. Read all instructions carefully before answering the questions.
2. This question paper consists of **Two (2)** Sections carrying Seven (7) questions in **five (5)** pages.
3. Answer **BOTH questions in Section A** and **ANY THREE (3) Questions in Section B.**
4. Answers for **sections A & B should be submitted on separate answer books** with **Section A and Section B written clearly on the cover of the respective book**
5. Answer for each question should commence on a new page.
6. This is a Closed Book Test (CBT).
7. Answers should be in clear handwriting.
8. Do not use Red colour pens.

## SECTION A

### QUESTION 1

Eco Lanka Enterprise is a small-scale firm which manufactures healthy & environmentally friendly clay products. Recently, the firm introduced a new product 'Eco-Water Clay Pot', which is a special water bottle made of special clay. Information related to the cost of producing the product in the month of March 2022 are given below:

	Value in (Rs)
Opening inventory as at 01.03.2022	193,000
Expenses related to the business	
Clay and packing materials	1,100,000
Rent of the business premises	50,000
Paint and varnish	300,000
Salary to employees	240,000
Electricity	16,500
Supervisory charges	180,000
Machine repairs	12,500
Sundries	5,000
Machine depreciation calculated for the month of March 2022	15,000
Closing inventory as at 31.03.2022	112,000

The profit margin is set as 20% of the total cost of production. During the given month 2,000 units of the 'Eco-Water Clay Pot' were manufactured.

You are required to calculate the following related to manufacturing of 'Eco-Water Clay Pot' for the month of March 2022 . You have to clearly state any assumptions made (if needed) in the computation.

- i. Primary Cost and Overhead Cost
- ii. Total Cost of production and Unit Cost of the product
- iii. Selling Price of the product

(10 marks)

## QUESTION 2

You are given the following transactions for the business of Mr. Silva for the month of March 2022 .

- (a) As a result of each transaction given below, state whether the value of each variable (Assets, Equity or Liability) in the following Accounting Equation increases (+) or decreases (-). An example has been provided below in order for you to get an idea of what is expected:

Example 01: The owner invested Rs. 3,500,000/- in the business

A (Assets)	=	E (Equity)	+	L(Liabilities)
+3,500,000	=	+3,500,000	+	0

- i. Purchased a motor vehicle for Rs. 750,000/=
- ii. Borrowed a bank loan of Rs.500,000/=
- iii. Purchased, on credit basis, goods worth Rs.450,000/= for the purpose of re-selling
- iv. Purchased, on cash basis, goods worth Rs.200,000/= for the purpose of re-selling
- v. Rs.180,000/= worth of goods sold on a Credit basis for Rs.250,000/=
- vi. Rs.150,000/= worth of goods sold on Cash basis for Rs. 200,000/=
- vii. Received Rs.150,000/= from the debtors
- viii. Paid Rs.450,000/= to creditors
- ix. Paid Rs. 60,000/= as the rent for the business premises
- x. Purchased Rs. 150,000/= worth of computers for the business
- xi. Paid Rs. 36,000/= as electricity bills
- xii. Purchased Rs. 700,000/= worth of furniture
- xiii. Owner withdrew Rs.25,000/= from the business
- xiv. Donated Rs. 5,000/= worth of inventory to outsiders
- xv. Paid Rs.320,000/= as salaries to the employees

(15 marks)

- (b) Record the above transactions in the ledger of Mr. Silva's business and prepare the Trial Balance as of 31<sup>st</sup> March 2022.

(15 marks)

## SECTION B

### QUESTION 3

In a recently telecasted television program a financial expert made three important points which are given below in parts (a), (b) and (c) of the question within quotations. You are required to answer (a), (b) and (c) with reference to each point.

- (a) "Profit maximization does not certainly serve the best interest of owners; you have to understand how to create the wealth."

Do you agree with this statement? Briefly discuss.

(05 marks)

- (b) “Financial statements are the output of the accounting system of a business organization. Users of financial statements are diverse, having different needs of the accounting information”.

Briefly explain the objectives of financial statements. (05 marks)

- (c) “There are five types of financial statements. They are namely Statement of Income, Statement of Financial Position, Statement of Cash Flow, Statements of Changes in Equity and Accounting notes”.

Briefly explain the type of information presented in each of the above financial statements.

(10 marks)

#### QUESTION 4

- (a) Explain the three main purposes of cost accountancy.

(06 marks)

- (b) Describe the two concepts, cost unit and cost centre separately using examples.

(08 marks)

- (c) Describe what is understood by fixed costs while stating the four main features of fixed costs. Give three examples of fixed costs associated with a manufacturing company.

(06 marks)

#### QUESTION 5

- (a) Explain the following two traditional costing techniques.

- (i) Absorption costing  
(ii) Variable costing

(08 marks)

- (b) Furnifit Limited is a steel furniture making company which has four main departments namely Fabrication, Assembling, Painting and Maintenance. The following information are provided.

Monthly budgeted costs of the four divisions are shown below:

Cost Item	Fabrication (Rs.)	Assembling (Rs.)	Painting (Rs.)	Maintenance (Rs.)
Indirect Labour	2,000,000	3,000,000	1,000,000	1,500,000
Indirect Material	600,000	500,000	400,000	100,000

Other monthly overhead costs of all the four departments are given below:

- Cost of electricity- Rs. 300,000
- Rent expenses -Rs. 500,000
- Depreciation of machinery – Rs. 2,000,000
- Supervision cost – Rs.600,000

Additional information are given below:

Item	Fabrication	Assembling	Painting	Maintenance
Area in square meters	1,000	2,500	3,500	500
Cost of machinery in Rs.	8,000,000	3,000,000	2,000,000	1,000,000
Number of workers	30	25	10	5
Power in kilo Watt hours	250	100	100	50
Maintenance hours in a month	600	400	500	

- i) Determine the total monthly overhead cost incurred by the Maintenance department by apportioning the common overhead costs. (07 marks)
- ii) Reapportion the cost incurred by the Maintenance department among the three production departments. (03 marks)
- iii) Calculate the Maintenance hour Rate of Absorption. (02 marks)

## QUESTION 6

- a) Name four pricing strategies that are used in practice, and briefly discuss any two of these strategies. (06 marks)
- b) PST Limited is a cement block production company. It has developed a new cement block having higher strength, better appearance, and less self-weight. PST Limited requires a return on invested capital of 25% per annum.  
 Budgeted sales volume (in units) -100,000 units.  
 Variable production cost per unit - Rs. 65  
 Fixed production cost per unit -Rs. 55  
 Other annual fixed costs (overheads etc.) - Rs. 2,500,000  
 Investment in machinery to produce the new block - Rs. 1,200,000  
 Period over which investment in new machinery is to be written off - 05 years.  
 Research and development costs for the new block - Rs. 800,000
  - i) Calculate the unit price of the new cement block based on the above data. (05 marks)

- ii) PST Limited has decided to set a 'penetration pricing' of Rs. 145 per cement block. If the company wishes to maintain the same return on investment, calculate the required sales volume in units to achieve this target. All the other information remains unchanged.

(05 marks)

- c) Briefly discuss what is Social and Environmental accounting.

(04 marks)

### QUESTION 7

X & Z (pvt) Ltd is a leading plastic production company in the country. It is planning to purchase a new machine to enhance production capacity at a cost of Rs. 1,200,000. The expected net cash inflow from the production due to the new machine is Rs. 400,000 per annum during the next five years.

- (a) Calculate the payback period of this investment (02 marks)
- (b) Calculate the NPV of the investment considering the next five years. The discounted rate can be considered as 15%. Also, assume that all cash inflows are received at the end of each year. (05 marks)
- (c) Briefly discuss the weaknesses of the Payback period method over NPV method (03 marks)
- (d) Briefly discuss the Internal Rate of Return (IRR) method and its application. (04 marks)
- (e) If X & Z (pvt) Ltd has to incur an annual maintenance cost of Rs.30,000 per year for the first three (03) years and 10 % higher cost for next two (02) years for the machine, calculate the revised NPV. All other facts relevant to NPV calculation remain the same.

(06 marks)