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**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF MANAGEMENT

MAKE UP EXAMINATION – JAN 2023

Course Code: MAH 102

Course Name: Financial Analytics and Control

Program & Sem: BCH - CMA

Date: 24th January 2023

Time: 1.00PM to 4.00PM

Max Marks: 100 Marks

Weightage:50%

Instructions:

(i) Read the all questions carefully and answer accordingly.

Part A [Memory Recall Questions]

Answer all the Questions. Each question carries 3 marks.

(10Qx 3M= 30M)

1. A company is using process costing (with first-in first-out [FIFO]) and all costs are added evenly throughout the manufacturing process. If there are 5,000 units in beginning work-in-process (WIP) inventory (30% complete), 10,000 units in ending WIP inventory (60% complete), and 25,000 units started in process this period, how many equivalent units are there for this period?
 - A. 22,500 units.
 - B. 26,000 units.
 - C. 24,500 units.
 - D. 25,000 units(C.O.No.3) [Blooms 'level-Knowledge]
2. A firm using a Department-wide overhead rate has four departments with the following overhead amounts: \$200,000, \$300,000, \$100,000, and \$200,000. The same departments respectively have the following annual labor-hours totals: 30,000, 40,000, 20,000, and 10,000. Assuming labor-hours are used as the allocation base, what overhead rate will the first department use?
 - A. \$6.67/labor-hour.
 - B. \$2/labor-hour.
 - C. \$10/labor-hour.
 - D. \$8/labor-hour.(C.O.No 4) [Blooms 'level-Knowledge]
3. XYZ Garments Company manufactures shirts using cotton and Linen. Since the same style shirts are made out of both fabrics, Company uses operation costing. During June, 2,000 cotton shirts were completely produced. Also during June, 3,000 linen shirts were started by adding all materials at the beginning of the process. Of these 3,000 shirts, 1400 were completely finished and the remainder were 25 percent complete by the end of the month. There was no work-in-process inventory at the beginning of June. Costs incurred during June were as follows.

Cotton	\$20,000
Linen	\$45,000
Conversion Costs	26,600

The cost per unit to manufacture one cotton shirt during June was:

(C.O.No.3) [Blooms 'level-Knowledge]

- A. \$20.32.
- B. \$32.00.
- C. \$22.00.
- D. \$17.00.

4. A Company uses a weighted-average process costing system. All materials are introduced at the start of manufacturing, and conversion cost is incurred evenly throughout production. The company started 70,000 units during May and had the following work-in-process inventories at the beginning and end of the month.

May 1	30,000 units, 40% complete
May 31	24,000 units, 25% complete

Assuming no spoilage or defective units, the total equivalent units used to assign costs for May are

(C.O.No.4) [Blooms 'level-Knowledge]

- A. Materials = 100,000, Conversion Cost = 82,000.
- B. Materials = 70,000, Conversion Cost = 70,000.
- C. Materials = 82,000, Conversion Cost = 82,000.
- D. Materials = 100,000, Conversion Cost = 70,000.

5. ABC Corporation expects to incur \$7,000 of factory overhead and \$6,000 of general and administrative costs next year. Direct labor costs at \$5 per hour are expected to total \$5,000. If factory overhead is to be applied per direct labor hour, how much overhead will be applied to a job incurring 20 hours of direct labor: (C.O.No.3) [Blooms 'level-Knowledge]

- A. \$120.
- B. \$260.
- C. \$28.
- D. \$140.

6. A company uses job-order costing and begins the period with no finished goods inventory, but with a beginning work-in-process (WIP) of the following: jobs:

Job #15 = \$42,000

Job #16 = \$33,000

Job #17 = \$12,000

Total WIP = \$87,000

During the period, a new job is started (Job #18) and the following costs are incurred

- Direct materials: \$100,000 (20% each for Jobs #15, #16, #17 and 40% for Job #18)
- Direct labor: 5,000 hours at \$15 per hour (hours for Jobs #15, #16, #17, and #18 are 1,500, 1,500, 1,200, and 800, respectively)

Factory overhead (using a predetermined rate where total overhead for the year is estimated to be \$200,000 and total direct labor (cost driver) is 50,000 hours)

Jobs #15 and #16 are completed and sold during the period. What is cost of goods sold for the period?

- A. \$97,000
- B. \$172,000.
- C. \$160,000.
- D. \$175,000.

7. Baremont Company has been asked to evaluate the profitability of a product that it manufactured and sold from 1997 through 2000. The product had a one-year warranty from date of sale. The following information appears in the financial records.

Research, development and design cost <u>(1995 and 1996)</u> \$5,000,000	Manufacturing and distribution costs <u>(1997-2000)</u> \$7,000,000	Warranty costs <u>(1997-2000)</u> \$200,000	Warranty cost <u>(2001)</u> \$100,000
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The life-cycle cost for this product is

(C. O.No.3) [Blooms 'level-Knowledge]

- A. \$12,200,000
- B. \$12,000,000
- C. \$10,000,000
- D. \$12,300,000

8. XYZ Inc. has two data services departments (the Systems Department and the Facilities Department) that provide support to the company's three production departments (Machining Department, Assembly Department, and Finishing Department). The overhead costs of the Systems Department are allocated to other departments on the basis of computer usage hours. The overhead costs of the Facilities Department are allocated based on square feet occupied (in thousands). Other information pertaining to XYZ is as follows.

<u>Department</u>	<u>Overhead</u>	<u>Computer Usage Hours</u>	<u>Square Feet Occupied</u>
Systems	\$200,000	300	1,000
Facilities	100,000	900	600
Machining	400,000	3,600	2,000
Assembly	550,000	1,800	3,000
Finishing	620,000	<u>2,700</u>	<u>5,000</u>
		<u>9,300</u>	<u>11,600</u>

If XYZ employs the direct method of allocating service department costs, the overhead of the Systems Department would be allocated by dividing the overhead amount by:

(C.O.No.4) [Blooms 'level-Knowledge]

- A. 9,000 hours
- B. 1,200 hours
- C. 8,100 hours
- D. 9,300 hours

9. A Manufacturing Company uses a weighted-average process costing system and has the following costs and activity during a month

Materials	\$40,000
Conversion cost	<u>32,500</u>
Total beginning work-in-process inventory	<u>\$72,500</u>
Materials	\$700,000
Conversion cost	<u>617,500</u>
Total production costs – October	<u>\$1,317,500</u>
Production completed	60,000 units
Work-in-process, October 31	20,000 units

All materials are introduced at the start of the manufacturing process, and conversion cost is incurred uniformly throughout production. Conversations with plant personnel reveal that, on average, month-end in-process inventory is 25% complete. Assuming no spoilage, how should manufacturing cost be assigned for the month?

(D. O.No.4) [Blooms 'level-Knowledge]

- A. Production Completed = \$1,155,000, Work-in-Process = \$235,000
- B. Production Completed = \$1,095,000, Work-in-Process = \$222,500.
- C. Production Completed = \$1,042,500, Work-in-Process = \$347,500.
- D. Production Completed = \$1,283,077, Work-in-Process = \$106,923.

10. A Company manufactures two types of engineering diagnostic equipment used in construction. The two products are based upon different technologies, x-ray and ultra-sound, but are manufactured in the same factory. Company has computed the manufacturing cost of the x-ray and ultra-sound products by adding together direct materials, direct labor, and overhead cost applied based on the number of direct labor hours. The factory has three overhead departments that support the single production line that makes both products. Budgeted overhead spending for the departments is as follows:

Department			
<u>Engineering Design</u>	<u>Material Handling</u>	<u>Setup</u>	<u>TOTAL</u>
\$6,000	\$5,000	\$3,000	<u>\$14,000</u>

Company's budgeted manufacturing activities and costs for the period are:

<u>Activity</u>	Product	
	<u>X-Ray</u>	<u>Ultra-Sound</u>
Units produced and sold	50	100
Direct materials used	\$ 5,000	\$ 8,000
Direct labor hours used	100	300
Direct labor cost	\$ 4,000	\$ 12,000
Number of parts used	400	600
Number of engineering changes	2	1
Number of product setups	8	7

The budgeted cost to manufacture one X-Ray machine using the activity-based costing method is:

(C.O.No.4) [Blooms 'level-Knowledge]

- A. \$264.
- B. \$332.
- C. \$225.
- D. \$166.

Part B [Thought Provoking Questions]

Answer all the Questions. Each question carries 8 marks.

(5Qx8M=40M)

11. Explain Robotics Process Automation in detail along with its advantages and drawbacks.

(C.O.No.4) [Blooms 'level-Comprehension]

12. Explain the following in detail along with examples:

i. Accounting controls

ii. Input controls

iii. Processing Controls (minimum 6 controls)

iv. Output controls

(C.O.No.4) [Blooms 'level-Comprehension]

13. Read the given Scenario and answer the following questions:

Ace Contractors is a large regional general contractor. As the company grew, Eddie Li was hired as the controller and tasked with analyzing the monthly income statements and reconciling all of the accounts formerly handled by Susan Zhao, the sole accounting associate. Li noticed a large amount of demolition expense for February, even though no new projects had started over the past few months. Since Li did not expect such a large amount of demolition expense, nor was any of this type of expense budgeted, Li dug a little deeper. He found that all of those expenses were bank transfers into another bank account. After additional research, it became evident that Zhao had been transferring funds out of the company bank account and into her own, and recording fake expenses to make the bank account reconciliation work. While the president kept the prenumbered checks locked up until check run time and signed all of the outgoing checks, he was unaware of the ability to initiate transfers via the internet. Li had also reviewed the bank reconciliations, which were completed by the office manager, and this fraud was not evident since the ending balance was reasonable.

REQUIRED:

- a) Identify and explain the four types of functional responsibilities that should be segregated properly.
- b) Identify and explain two incompatible duties that Zhao had that allowed her to take company funds.
- c) Identify and explain two ways that the company had attempted to safeguard its assets and suggest two ways to strengthen controls in this area.

(C.O.No.4) [Blooms 'level-Comprehension]

14. Johnson Company manufactures a variety of shoes, and has received a special one-time-only order directly from a wholesaler. Johnson has sufficient idle capacity to accept the special order to manufacture 15,000 pairs of sneakers at a price of \$7.50 per pair. Johnson's normal selling price is \$11.50 per pair of sneakers. Variable manufacturing costs are \$5.00 per pair and fixed manufacturing costs are \$3.00 a pair. Johnson's variable selling expense for its normal line of sneakers is \$1.00 per pair. What would the effect on Johnson's operating income be if the company accepted the special order?

(C.O.No.2) [Blooms 'level-Comprehension]

15. Read the given Scenario and answer the following questions:

TruJeans, a new startup company, plans to produce blue jean pants, customized with the buyer's first name stitched across the back pocket. The product will be marketed exclusively via an internet website. For the coming year, sales have been projected at three different levels: optimistic, neutral, and pessimistic. TruJeans does keep inventory on hand, but prefers to minimize this investment.

The controller is preparing to assemble the budget for the coming year, and is unsure about a number of issues, including the following:

- The level of sales to enter into the budget.
- How to allocate the significant fixed costs to individual units.
- Whether to use job order costing or process costing.

In addition, the controller has heard of kaizen budgeting and is wondering if such an approach could be used by TruJeans.

REQUIRED:

- A. How could the use of variable (direct) costing mitigate the problem of how to allocate the fixed costs to individual units?
- B. Which cost system seems to make more sense for TruJeans, job order costing or process costing? Explain your answer. (C.O.No.3) [Blooms 'level-Comprehension]

Part C [Problem Solving Questions]

Answer all the Questions. Each question carries 15 marks.

(15Qx2M=30M)

16. Read the given Scenario and answer the following questions:

Sonimad Sawmill Inc. (SSI) purchases logs from independent timber contractors and processes the logs into the following three types of lumber products.

Studs for residential building (e.g., walls, ceilings).

Decorative pieces (e.g., fireplace mantels, beams for cathedral ceilings).

Posts used as support braces (e.g., mine support braces, braces for exterior fences around ranch properties).

These products are the result of a joint sawmill process that involves removal of bark from the logs, cutting the logs into a workable size (ranging from 8 to 16 feet in length), and then cutting the individual products from the logs, depending upon the type of wood (pine, oak, walnut, or maple) and the size (diameter) of the log. The joint process results in the following costs and output of products for a typical month.

Joint production costs:

Materials (rough timber logs)	\$ 500,000
Debarking (labor and overhead)	50,000
Sizing (labor and overhead)	200,000
Product cutting (labor and overhead)	250,000
Total joint costs	\$1,000,000

Product yield and average sales value on a per unit basis from the joint process are as follows.

<u>Product</u>	<u>Monthly Output</u>	<u>Fully Processed Sales Price</u>
Studs	75,000	\$ 8
Decorative pieces	5,000	100
Posts	20,000	20

The studs are sold as rough-cut lumber after emerging from the sawmill operation without further processing by SSI. Also, the posts require no further processing. The decorative pieces must be planed and further sized after emerging from the SSI sawmill. This additional processing costs SSI \$100,000 per month and normally results in a loss of 10% of the units entering the process. Without this planning and sizing process, there is still an active intermediate market for the unfinished decorative pieces where the sales price averages \$60 per unit.

REQUIRED:

Based on the information given for Sonimad Sawmill Inc., allocate the joint processing costs of \$1,000,000 to each of the three product lines using the

A) relative sales value method at split-off.

B) physical output (volume) method at split-off.

C) estimated net realizable value method.

(C.O.No.4) [Blooms 'level Application]

17. Read the given Scenario and answer the following questions:

Ted Crosby owns Standard Lock Inc., a small business that manufactures metal door handles and door locks. When he first started the company, Crosby managed the business by himself, overseeing purchasing and production, as well as maintaining the financial records. The only employees he hired were production workers.

As the business expanded, Crosby decided to hire John Smith as the company's financial manager. Smith had an MBA and ten years of experience in the finance department of a large company.

During the interview, Smith mentioned that he was considering an offer from another company and needed to know of Crosby's decision within the next couple of days. Since Crosby was extremely impressed with Smith's credentials, he offered him the job without conducting background checks. Smith seemed to be a dedicated and hard-working employee. His apparent integrity quickly earned him a reputation as an outstanding and trusted manager.

Later in the year, Crosby hired another manager, Joe Fletcher, to oversee the production department. Crosby continued to take care of purchasing and authorized all payments. Fletcher was highly qualified for the position and seemed to be reliable and conscientious. After observing Fletcher's work for one year, Crosby concluded that he was performing his duties efficiently. Crosby believed that Fletcher and Smith were both good managers whom he could trust and gave them expanded responsibilities. Fletcher's additional responsibilities included purchasing and receiving; Smith paid all the bills, prepared and signed all checks, maintained records, and reconciled the bank statements.

Soon Crosby began taking a hands-off approach to managing his business. He frequently took long vacations with his family and was not often at the office to check on the business. He was pleased that the company was profitable and expected that it would continue to be profitable in the future under the supervision of two qualified and trusted managers. One year after Crosby left the management of the company to Smith and Fletcher, business began to experience a decline in profits. Crosby assumed that it was due to a cyclical downturn in the economy. When Standard continued to decline even as the economy improved, Crosby began to investigate. He noticed that revenues were increasing but profits were declining. He also discovered that purchases from one

vendor had increased significantly as compared to the other five vendors. Crosby is concerned that fraud may be occurring in the company.

REQUIRED:

- A. Identify and describe four internal control deficiencies within Standard Lock Inc.
- B. For each of the internal control deficiencies identified, recommend an improvement in procedures that would mitigate these deficiencies. (C.O.No.3) [Blooms 'level Application]