

Roll No.

Total No. of Questions – 6

Total No. of Printed Pages – 12

Time Allowed – 3 Hours

Maximum Marks – 100

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Answers to questions are to be given only in English except in the case of candidates who have opted for Hindi Medium. If a candidate has not opted for Hindi Medium, his/her answers in Hindi will not be valued.

Question No. 1 is compulsory.

Attempt any **four** questions out of the remaining **five** questions.

Working notes should form part of the answers.

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1. Answer the following :

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- (a) M/s. SJ Private Limited manufactures 20000 units of a product per month. The cost of placing an order is ₹ 1,500, The purchase price of the raw material is ₹ 100 per kg. The re-order period is 5 to 7 weeks. The consumption of raw materials varies from 200 kg to 300 kg per week, the average consumption being 250 kg. The carrying cost of inventory is 9.75% per annum.

You are required to calculate :

- (i) Re-order quantity
- (ii) Re-order level
- (iii) Maximum level
- (iv) Minimum level
- (v) Average stock level

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- (b) A manufacturing concern has provided following information related to fixed overheads :

	Standard	Actual
Output in a month	– 5000 units	4800 units
Working days in a month	– 25 days	23 days
Fixed overheads	– ₹ 5,00,000	₹ 4,90,000

Compute :

- (i) Fixed overhead variance
 - (ii) Fixed overhead expenditure variance
 - (iii) Fixed overhead volume variance
 - (iv) Fixed overhead efficiency variance
- (c) Following details have been provided by M/s AR Enterprises :
- (i) Opening works-in-progress – 3000 units (70% complete)
 - (ii) Units introduced during the year – 17000 units
 - (iii) Cost of the process (for the period) - ₹ 33,12,720
 - (iv) Transferred to next process – 15000 units
 - (v) Closing works-in-progress – 2200 units (80% complete)
 - (vi) Normal loss is estimated at 12% of total input (including units in process in the beginning). Scraps realise ₹ 50 per unit. Scraps are 100% complete.

Using FIFO method, compute :

- (i) Equivalent production
- (ii) Cost per equivalent unit

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(d) M/s. SD Private Limited commenced a contract on 1st July 2017 and the company closes its account for the year on 31st March every year. The following information relates to the contract as on 31st March 2018.

- | | |
|--|------------|
| (i) Material issued | ₹ 9,48,000 |
| (ii) Direct wages | ₹ 4,57,200 |
| (iii) Prepaid direct wages as on 31.3.2018 | ₹ 1,08,000 |
| (iv) Administration charges | ₹ 7,20,000 |
| (v) A supervisor, who is paid ₹ 50,000 per month, has devoted two-third of his time to this contract. | |
| (vi) A plant costing ₹ 7,85,270 has been on the site for 185 days, its working life is estimated at 9 years and its scrap value is ₹ 75,000. | |

The contract price is ₹ 42 lakhs. On 31st March 2018 two-third of the contract was completed. The Architect issued certificate covering 50% of the contract price and the contractor had been paid ₹ 15.75 lakhs on account.

Assuming 365 days in a year, you are required to :

- Prepare a Contract Account showing work cost
- Calculate Notional Profit or Loss as on 31st March 2018.

2. (a) Following details are provided by M/s ZIA Private Limited for the quarter ending 30 September, 2018 : 10

- | | |
|--|-------------|
| (i) Direct expenses | ₹ 1,80,000 |
| (ii) Direct wages being 175% of factory overheads | ₹ 2,57,250 |
| (iii) Cost of goods sold | ₹ 18,75,000 |
| (iv) Selling & distribution overheads | ₹ 60,000 |
| (v) Sales | ₹ 22,10,000 |
| (vi) Administration overheads are 10% of factory overheads | |

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Stock details as per Stock Register :

Particulars	30.06.2018	30.09.2018
	₹	₹
Raw material	2,45,600	2,08,000
Work-in-progress	1,70,800	1,90,000
Finished goods	3,10,000	2,75,000

You are required to prepare a cost sheet showing :

- (i) Raw material consumed
 - (ii) Prime cost
 - (iii) Factory cost
 - (iv) Cost of goods sold
 - (v) Cost of sales and profit
- (b) A manufacturing company is producing a product 'A' which is sold in the market at ₹ 45 per unit. The company has the capacity to produce 40000 units per year. The budget for the year 2018-19 projects a sale of 30000 units. 10

The costs of each unit are expected as under :

	₹
Materials	12
Wages	9
Overheads	6

Margin of safety is ₹ 4,12,500

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You are required to :

- (i) calculate fixed cost and break-even point.
- (ii) calculate the volume of sales to earn profit of 20% on sales.
- (iii) if management is willing to invest ₹ 10,00,000 with an expected return of 20%, calculate units to be sold to earn this profit.
- (iv) Management expects additional sales if the selling price is reduced to ₹ 44. Calculate units to be sold to achieve the same profit as desired in above (iii).

3. (a) XYZ Ltd. has obtained an order to supply 48000 bearings per year from a concern. On a steady basis, it is estimated that it costs ₹ 0.20 as inventory holding cost per bearing per month and the set-up cost per run of bearing manufacture is ₹ 384. 10

You are required to :

- (i) compute the optimum run size and number of runs for bearing manufacture.
- (ii) compute the interval between two consecutive runs.
- (iii) find out the extra costs to be incurred, if company adopts a policy to manufacture 8000 bearings per run as compared to optimum run size.
- (iv) give your opinion regarding run size of bearing manufacture.

Assume 365 days in a year.

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- (b) M/s. HMB Limited is producing a product in 10 batches each of 15000 units in a year and incurring following overheads their on : 10

	Amount (₹)
Material procurement	22,50,000
Maintenance	17,30,000
Set-up	6,84,500
Quality control	5,14,800

The prime costs for the year amounted to ₹ 3,01,39,000.

The company is using currently the method of absorbing overheads on the basis of prime cost. Now it wants to shift to activity based costing.

Information relevant to Activity drivers for a year are as under :

Activity Driver	Activity Volume
No. of purchase orders	1500
Maintenance hours	9080
No. of set-ups	2250
No. of inspections	2710

The company has produced a batch of 15000 units and has incurred ₹ 26,38,700 and ₹ 3,75,200 on materials and wages respectively.

The usage of activities of the said batch are as follows :

Material orders	48 orders
Maintenance hours	810 hours
No. of set-ups	40
No. of inspections	25

You are required to :

- (i) find out cost of product per unit on absorption costing basis for the said batch.
- (ii) determine cost driver rate, total cost and cost per unit of output of the said batch on the basis of activity based costing.

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4. (a) The following balances were extracted from a Company's ledger as on 30th June, 2018 : 10

Particulars	Debit (₹)	Credit (₹)
Raw material control a/c	2,82,450	
Work-in-progress control a/c	2,38,300	
Finished stock control a/c	3,92,500	
General ledger adjustment a/c		9,13,250
Total	9,13,250	9,13,250

The following transactions took place during the quarter ended 30th September, 2018 :

	₹
(i) Factory overheads – allocated to work-in-progress	1,36,350
(ii) Goods finished – at cost	13,76,200
(iii) Raw materials purchased	12,43,810
(iv) Direct wages – allocated to work-in-progress	2,56,800
(v) Cost of goods sold	14,56,500
(vi) Raw materials – issued to production	13,60,430
(vii) Raw materials – credited by suppliers	27,200
(viii) Raw materials losses – inventory audit	6,000
(ix) Work-in-progress rejected (with no scrap value)	12,300
(x) Customer's returns (at cost) of finished goods	45,900

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You are required to prepare :

- (i) Raw material control a/c
- (ii) Work-in-progress control a/c
- (iii) Finished stock control a/c
- (iv) General ledger adjustment a/c

- (b) M/s XY Travels has been given a 25 km. long route to run an air-conditioned Mini Bus. The cost of bus is ₹ 20,00,000. It has been insured @ 3% premium per annum while annual road tax amounts to ₹ 36,000. Annual repairs will be ₹ 50,000 and the bus is likely to last for 5 years. The driver's salary will be ₹ 2,40,000 per annum and the conductor's salary will be ₹ 1,80,000 per annum in addition to 10% of the takings as commission (to be shared by the driver and the conductor equally). Office and administration overheads will be ₹ 3,18,000 per annum. Diesel and oil will be ₹ 1,500 per 100 km. The bus will make 4 round trips carrying on an average 40 passengers on each trip. 10

Assuming 25% profit on takings and considering that the bus will run on an average 25 days in a month, you are required to :

- (i) prepare operating cost sheet (for the month).
- (ii) calculate fare to be charged per passenger km.

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5. (a) An electronic gadget manufacturer has prepared sales budget for the next few months. In this respect, following figures are available : 10

Months	Electronic gadgets' sales
January	5000 units
February	6000 units
March	7000 units
April	7500 units
May	8000 units

To manufacture an electronic gadget, a standard cost of ₹ 1,500 is incurred and it is sold through dealers at an uniform price of ₹ 2,000 per gadget to customers. Dealers are given a discount of 15% on selling price.

Apart from other materials, two units of batteries are required to manufacture a gadget. The company wants to hold stock of batteries at the end of each month to cover 30% of next month's production and to hold stock of manufactured gadgets to cover 25% of the next month's sale.

3250 units of batteries and 1200 units of manufactured gadgets were in stock on 1st January.

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Required :

- (i) Prepare production budget (in units) for the month of January, February, March and April.
- (ii) Prepare purchase budget for batteries (in units) for the month of January, February and March and calculate profit for the quarter ending on March.

- (b) (i) Following data have been extracted from the books of M/s. ABC 5

Private Limited :

(i)	Salary (each employee, per month)	₹ 30,000
(ii)	Bonus	25% of salary
(iii)	Employer's contribution to PF, ESI etc.	15% of salary
(iv)	Total cost at employees' welfare activities	₹ 6,61,500 per annum
(v)	Total leave permitted during the year	30 days
(vi)	No. of employees	175
(vii)	Normal idle time	70 hours per annum
(viii)	Abnormal idle time (due to failure of power supply)	50 hours
(ix)	Working days per annum	310 days of 8 hours

You are required to calculate :

- (i) Annual cost of each employee
- (ii) Employee cost per hour
- (iii) Cost of abnormal idle time, per employee

- (ii) M/s. NOP Limited has its own power plant and generates its own power. Information regarding power requirements and power used are as follows: 5

	Production Dept.		Service Dept.	
	A	B	X	Y
	(Horse power hours)			
Needed capacity production	20,000	25,000	15,000	10,000
Used during the quarter ended September 2018	16,000	20,000	12,000	8,000

During the quarter ended September 2018, costs for generating power amounted to ₹ 12.60 lakhs out of which ₹ 4.20 lakhs was considered as fixed cost.

Service department X renders services to departments A, B, and Y in the ratio of 6:4:2 whereas department Y renders services to department A and B in the ratio of 4:1. The direct labour hours of department A and B are 67500 hours and 48750 hours respectively.

Required :

- (i) Prepare overheads distribution sheet.
- (ii) Calculate factory overhead per labour hour for the dept. A and dept. B.

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6. Answer any **four** of the following :

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- (a) Mention and explain types of responsibility centres.
- (b) Explain obsolescence and circumstances under which materials become obsolete. State the steps to be taken for its treatment.
- (c) State the bases of apportionment of following overhead costs :
 - (i) Air-conditioning
 - (ii) Time keeping
 - (iii) Depreciation of plant and machinery
 - (iv) Power / steam consumption
 - (v) Electric power (Machine operation)
- (d) How are By-products treated in Costing ?
- (e) Explain 'Activity Based Budgeting'.

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