

# **CMAStudent** E - Bulletin INTERMEDIATE





#### THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

(Statutory Body under an Act of Parliament)

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#### **STUDENTS' E-bulletin Intermediate**

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In this section of e-bulletin we shall have a series of discussion on each of these chapters to provide a meaningful assistance to the students in preparing themselves for the examination at

the short end and equip them with sufficient knowledge to deal with real life complications at the long end.



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## GROUP: I, PAPER: 5 FINANCIAL ACCOUNTING (FAC)

# **Your Preparation Quick Takes**



#### **Syllabus Structure**

A Accounting Basics 25%
B Preparation of Financial Statements 40%
C Self Balancing Ledger, Royalties, Hire Purchase & Installment System, Branch & Departmental Accounts 20%
D Accounting in Computerised Environment and Accounting Standards 15%

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#### Learning Objective:

- Students will demonstrate their knowledge of the fundamental and technical concepts of accounting.
- Students will reveal critical-thinking and problem-solving skills.
- Students will exhibit the ability to recognize when change is appropriate, to adapt to change as it occurs, and to take the lead in creating change.
- Students will display a sense of responsibility and a capacity for the subject after learning.

#### FINANCIAL ACCOUNTING

Mission is a very short-lived phenomenon. You should think for a vision which will drive to a very bright future. Never underestimate your power.

A man was walking nearby to a group of elephants that was halted by a small rope tied to their front leg. He was amazed by the fact that the huge elephants are not even making an attempt to break the rope and set themselves free.

He saw an elephant trainer standing beside them and he expressed his puzzled state of mind. The trainer said "when they are very young and much smaller we use the same size rope to tie them and, at that age, it's enough to hold them.

As they grow up, they are conditioned to believe they cannot break away. They believe the rope can still hold them, so they never try to break free."

**Moral:** It is the false belief of the elephants that denied their freedom for life time. Likewise, many people are not trying to work towards success in their life just because they failed once before. So keep on trying and don't get tied up with some false beliefs of failure.

Let us now explore our mind power of the subject with some simple exercise:

- 1. If Mr. X a debtor of Rs. 40000. becomes insolvent and 50 % of the rupee is recovered. What will be the Journal entry
  - a. Bad debt a/c .. Dr 20000 To P/L a/c 20000
  - b. Cash a/c .. Dr 40000 To debtors a/c 40000
  - c. Bad Debt a/c .. dr 20000 to Debtors a/c 20000
  - d. None of these

2. Rs. 5000 paid as rent wrongly debited to landlords account. What will be the rectifying entry

- a. Rent a/c .. Dr 5000 To P/L a/c 5000
- b. Rent a/c .. Dr To Landlord a/c 5000
- c. Cash a/c .. 5000 Dr To Rent a/c ..5000
- d. Rent a/c.. Dr 5000 To P/L a/c 5000
- 3. Cost of sales = cost of goods sold plus ....
  - a. Administration overhead
  - b. Selling and distribution overhead
  - c. Factory overhead
  - d. None of these
- 4. Which of the following statement is correct
  - a. Debit balance of Cash Book is overdraft
  - b. Credit balance of Pass Book is overdraft
  - c. Debit balance of the pass book is overdraft
  - d. Credit balance of the Cash Book is overdraft
- 5. Debit balance means
  - a. Debit side is higher than credit side
  - b. Credit side id higher than debit side
  - c. Both sides are equal
  - d. None of these
- 6. Wages paid for installation of machinery to be debited to
  - a. Wages account
  - b. Cash account
  - c. Machinery account
  - d. Depreciation account



- 7. Rent paid in advance to be credited to
  - a. Rent account
  - b. Cash account
  - c. Prepaid rent account
  - d. None of these

#### 8. Good distributed as free sample to be debited to

- a. Goods account
- b. Sample account
- c. Trading account
- d. Advertisement account

#### 9. Del credere commission is paid by consignor for

- a. Hiring extra space in godown
- b. Selling goods in cash
- c. Selling goods in credit
- d. Taking extra risk of selling goods in credit and its collection

#### 10. Contingent liability is written

- a. In the liability side of the balance sheet
- b. Not written at all
- c. Shown as a foot note below the balance sheet
- d. None of these
- 11.Scrutiny of debtors show that : ₹7500 fully realizable, ₹5000 75% realizable and ₹5000 50 % realizable. What will be the amount of provision for doubtful debt?
  - a. 3250
  - b. 3520
  - c. 4250
  - d. 5000

#### 12. How will you treat an item of "outstanding expense" lying in the credit side of the trial balance?

- a. Will be added with expenses in P/L account
- b. Will be shown as liability in the balance sheet
- c. Will not be treated at all
- d. None of these
- 13. Sales day book overcast by ₹500. In the rectification entry, suspense account will be:
  - a. Credited
  - b. Debited
  - c. Become O
  - d. NIL impact
- 14. Subscription received in advance for 2023 will be treated as:
  - a. Liability in the balance sheet
  - b. Asset in the balance sheet
  - c. Income in the balance sheet
  - d. Expense in the balance sheet

15.A trader has purchased a machinery costing ₹10000 on 1<sup>st</sup> January 2020. Which has been installed on the same date by incurring installation charges of ₹2000, The machine is to be depreciated @10% under WDV method.

QA. Depreciation for the year 2020 will be:

- a. ₹1000
- b. **₹1675**
- c. 1200
- d. 1020QB.

QB. Depreciation for 2022 on 30<sup>th</sup> June will be:

- a. ₹436
- b. 468
- c. 864

#### d. 486

QC. If the machine is sold in 2022 on 31<sup>st</sup> December @₹10000,

a. Profit of ₹280

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- b. Loss of ₹280
- c. Profit of ₹972
- d. None of these
- 16. External users of accounting are:
  - a. shareholders
  - b. employees
  - c. Management
  - d. Government
- 17. Cash flow statement is prepared on basis of:
  - a. AS-3
  - b. AS-26
  - c. AS-8
  - d. AS-10

18. Total assets will be\_\_\_\_\_, if capital ₹500000, creditors ₹300000, revenue during the period ₹535000, expenses during the period ₹380000:

- a. 955000
- b. 1055000
- c. 765000
- d. 695000
- 19. Opening balance of furniture ₹ 20000, closing balance of furniture ₹ 25000, rate of depreciation 20%. What will be the amount of depreciation to be charged to P/L account assuming addition to plant is made in the mid year.
  - a. ₹4000
  - b. ₹5000
  - *c.* ₹ 4500
  - d. ₹5500
- 20. Opening balance of furniture ₹ 25000, closing balance of furniture ₹ 20000, rate of depreciation 20%. What will be the amount of depreciation to be charged to P/L account assuming sale to plant is made in the mid year.
  - a. ₹4000
  - *b.* ₹4500
  - c. ₹5500
  - d. ₹5000

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## GROUP: I, PAPER: 6 LAWS & ETHICS (LNE)

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## **Your Preparation Quick Takes**



D 10%

C 35%

Syllabus Structure
A Commercial Laws 30%
B Industrial Laws 25%
C Corporate Laws 35%
D Ethics 10%

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#### Learning Objectives:

Prior to start discussing on the Paper, we need to understand few basic points about the paper. Unlike other papers, this particular may turn to be very interesting and scoring as well, provided you pay attention to the points discussed below:

- Read the Act carefully and try to know the meaning of the contents in it,
- All the Acts are having practical implications in the real life world and it will help you to solve the problems in your real life situations once you join in the industry and / or practicing field,
- Answers should be specific and to the point,
- Please don't try to elaborate your answers adding irrelevant terms and items; it may penalise you
  With the Tips given here, please follow the Suggested Answers and Mock Test Papers of the
  Institute to have a fair idea about writing the paper in the examination.

#### LAWS & ETHICS

It is hoped that you - the students prepare a time-table with time allotted for each subject and read, write , revise and recapitulate all that you keep on reading. .The first TIP is that you must read the Bear Act and the Sections and start asking questions to yourself and find your own answers.

In this issue we shall continue to deal with Corporate Laws – Companies Act,2013 and Rules

#### Inspection of Register – Members' Right to Inspect Sec.171(1) provides that :-

a) The Register shall be open for inspection during business hours and the members shall have a right to send requests to the company to take extracts therefrom and collect copies thereof and the company has to provide those free of cost within 30 days from the date of receipt of the request.

b) The Register shall also be open for inspection at every Annual General Meeting (AGM) of the company and shall be accessible to any person authorized to attend the meeting.

**Sec.171(2)** provides that if inspection is refused u/s 171(1)(a) or if a copy requested is not sent within 30 days from the date of receipt of such request, the Registrar shall, on an application made to him, order immediate inspection and supply of the required copies.

#### Sec.172

With effect from 21-12/2020, if a company fails to comply with any of the provisions for which no specific penalty or punishment is laid, the company and every officer of the company who is in default, shall be liable to penalty of Rs.50,000 (fifty thousand) and in case the default continues, a further penalty of Rs.500 for each day during which such failure continues, subject to a maximum of Rs.3,00,000 (Three lakhs) in case of a company and Rs.1,00,000 (One lakh) in case of an Officer who is in default.

- d. No company shall appoint or continue the employment of any person as Managing Director or Whole-time Director who :
  - is below the age of 21 years or has attained the age of 70 years is an undischarged insolvent or has at any time been adjudged as an insolvent
  - has at any time suspended payment to his creditors or makes,
     or has at any time made, a composition with them
  - has at any time been convicted by a court of an offence and sentenced for a period of more than six months.
- e. A Managing Director or Whole-time Director shall not hold office in more than one company except in its subsidiary company at the same time. If he is holding office in more than one company at the same time on the date of commencement of this Act, shall, within a period of six months from such commencement, choose one company, in which he wishes to continue to hold the office.
- f. Company shall pass a Special Resolution for the appointment of Managing Director or Whole-time Director under the following situations only
  - If the person so appointed has attained the age of 70 years.
  - If the remuneration payable exceeds the prescribed limit.
- g. Approval of Central Government shall be required where
  - Appointment of Managing Director or Whole Time Director is at variance to the conditions specified in Part I of Schedule V.
  - No Special Resolution is passed for the appointment of a person as Managing Director or Whole Time Director who has attained the age of 70 years.

Appointment of Managing Director, Whole time director Sec.196(1)

#### The following are the Mandatory Requirements :-

- a. No company shall appoint or employ at the same time a Managing Director and a Manager.
- b. No company shall appoint or re-appoint any person as its Managing Director or Whole-time Director for a term exceeding five years at a time.
- c. No re-appointment shall be made earlier than one year before the expiry of his term.

#### FOLLOWING PROCEDURE IS TO BE FOLLOWED

#### **Obtain Consent and Declaration**

Company shall obtain a written consent -

- ✓ in Form DIR-2 and
- ✓ a declaration of disqualification in Form DIR-8 from the person proposed to be appointed as a Managing Director or Whole-time Director in the Company.

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#### Meeting of Nomination and Remuneration Committee

Where a Company is required to constitute a Nomination and Remuneration Committee under section 178, it has shall have to receive a recommendation from the committee for the appointment and remuneration of the Managing Director (MD) or

Whole Time Director (WTD).

Convene a Meeting of Board of Directors [As per Section 173 & Secretarial Standard-1 (SS-1)]

#### Company has to follow the following steps :

- i. issue Notice of Board Meeting to all the Directors of Company
- ii. at their addresses registered with the Company,
- iii. at least 7 days before the date of Board Meeting.
- iv. A shorter notice can be issued in case of urgent business.
- v. Attach Agenda, Notes to Agenda and Draft Resolution with the Notice.
- vi. Notice shall include the terms and conditions for such appointment and remuneration payable to the MD or WTD.
- vii. Hold a meeting of Board of Directors and pass Board Resolution to appoint a MD or WTD and fix terms and conditions of such appointment subject to approval of members of the Company
- viii. to issue an appointment letter to the MD or WTD
- ix. to fix day, date, time and venue for holding General Meeting of the Company
- Oto approve the draft notice of General Meeting along with explanatory statement annexed to the notice as per requirement of the Section 102 of the Companies Act, 2013
- to authorize the Director or Company Secretary to sign and issue notice of the General Meeting and to do such acts, deeds and things as may be necessary to give effect to the Board's decision.
- xii. Listed Company shall submit the disclosure of such appointment to the Stock Exchange within 24 hours from the date of the Board Meeting and post the same on the website of the Company within 2 working days.
- xiii. Prepare and Circulate Draft Minutes within 15 days from the conclusion of the Board Meeting, by Hand/Speed Post/Registered Post/Courier/E-mail to all the Directors for their comments.
- xiv. File Form MGT-14 with ROC
- xv. Company shall file a copy of Board Resolution with the ROC in form MGT-14 within 30 days of passing of such resolution.
- xvi. Convene General Meeting (Refer Section 96, 100 and Secretarial Standard-2 (SS-2)]
- xvii. Issue Notice of General Meeting at least clear 21 days before the actual date of a General Meeting in writing, by hand or by ordinary post or by speed post or

transacted at the Meeting.

- xix. The General Meeting is to be held on fixed day and an Ordinary Resolution/Special Resolution has to be passed ,as the case may be, for appointment of MD or WTD and payment of his/her remuneration.
- xx. Listed Companies have to disclose the proceedings of General Meeting to the Stock Exchange within 24 hours from the conclusion of General Meeting and same shall be posted on the website of the company within 2 working days as per SEBI Regulations, 2015.
- xxi. Listed Companies shall submit to the stock exchange the details of the voting results within 48 hours from the conclusion of the meeting and post the same on the website of the Company per SEBI Regulations, 2015
- xxii. Prepare the minutes of General Meeting, get them duly signed

#### The next step would be to :-

- a. File Form DIR-12 with ROC
- **b. The** Company shall file the particulars of appointment of Managing Director or Whole Time Director to ROC in Form DIR-12 *within 30 days*

of such appointment along with the following documents:

- Certified True Copy of the Resolution
- Form 2-Consent to Act as Director
- Form 8- Declaration of Disqualification
- Letter of Appointment
- Details of Interest in any other entity
- Any other relevant document.

#### File Form MR-1 with ROC

Company shall file the return of appointment of MD or WTD in Form MR-1 with ROC within 60 days of such appointment along with the following documents

Certified true copy of the Board's Resolution Certified true copy of the Shareholders' resolution along with explanatory statement

Copy of letter of consent to act as Managing Director or Whole

Time Director in Form DIR-2.

- h. Sec.196(3) No company shall appoint or continue the employment of any person as Managing Director or Wholetime Director who :
  - is below the age of 21 years or has attained the age of 70 years
  - is an undischarged insolvent or has at any time been adjudged as an insolvent
  - has at any time suspended payment to his creditors or

by registered post or by courier or by facsimile or by email or by any other electronic means or a Shorter Notice can be issued with the consent of at least majority in number and ninety five percent of such part of the paid up share capital of the company giving a right to vote at such a meeting in accordance with Section 101.

xviii. Send Notice to all the Directors, Members, Auditors of Company, Secretarial Auditor, Debenture Trustees and to others who are entitled to receive the notice of the General Meeting. The Notice must specify the day, date, time and full address of the venue of the Meeting and contain a statement on the business to be makes, or has at any time made, a composition with them

• has at any time been convicted by a court of an offence and sentenced for a period of more than six months.

#### Remuneration of director

#### Sec.197(1) Maximum ceiling for payment of Managerial Remuneration

Section 197 of the Companies Act, 2013 prescribed the maximum ceiling for payment of managerial remuneration by a public company to its managing director, whole-time director and manager which shall not exceed 11% of the net profit of the company in that financial year computed in accordance with section 198 except that the remuneration of the directors shall not be deducted from the gross profits.

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#### 2. Payment of Managerial Remuneration More than ceiling i.e 11%

The company in general meeting may, with the approval of the Central Government, authorize the payment of remuneration exceeding 11% of the net profits of the company, subject to the provisions of Schedule V.

#### Remuneration to Managing Director, Whole time director

The remuneration payable to any one Managing Director or Whole Time Director or Manager shall not exceed 5% of the net profits of the company and if there is more than one such director remuneration shall not exceed 10% of the net profits to all such directors and manager taken together.

#### Remuneration payable to directors who are neither Managing Director or Whole Time Director

Subject to approval in the general meeting, the remuneration payable to directors who are neither managing directors nor whole-time directors shall not exceed, 1% of the net profits of the company, if there is a managing or whole-time director or manager; - 3% of the net profits in any other case.

Remuneration when there is no profit or inadequate profit In such a situation, provisions of Schedule V are to be followed, as discussed below :

The company shall not pay to its directors, including Managing Director or Whole Time Director or Manager, any remuneration **exclusive of** any fees payable to directors except in accordance with the provisions of Schedule V.

In cases, where Schedule V is applicable on grounds of no profits or inadequate profits, any provision relating to the remuneration of any director which purports to increase or has the effect of increasing the amount thereof, shall not have any effect unless such increase is in accordance with the conditions specified in that Schedule.

If the Company is not able to comply with the provisions and conditions of Schedule V, in that case, the company shall pay the remuneration, with prior approval of the Central Government.



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## GROUP: I, PAPER: 7 DIRECT TAXATION (DTX)

# **Your Preparation Quick Takes**





**Syllabus Structure** 

A Income Tax Act Basics 10%

B Heads of Income and Computation of Total Income and Tax Liability 70%

C Tax Management, Administrative Procedures and ICDS 20%

#### Learning Objectives:

- Identify the key concepts and functions of direct tax.
- Know how to calculate income tax provision's.
- Describe how uncertain tax positions are accounted for under the rules.
- Gradually you will come to know how to prepare and file tax returns.

#### <u>Residential Status</u>

#### Determination of Residential status [Sec. 6]

Assessee	Condition to be a Resident	Condition to be an Ordinarily resident
Individual	<ul> <li>An individual is said to be a resident in India, if he satisfies any one of the following conditions - <ul> <li>He is in India in the previous year for a period of 182 days or more [Sec. 6(1)(a)]: or</li> <li>He is in India for a period of 60 days or more during the previous year and for 365 or more days during 4 previous years immediately preceding the relevant previous year [Sec. 6(1)(c)]</li> </ul> </li> <li>Exceptions <ul> <li>A. In the following cases, condition (ii) of sec. 6(1) [i.e. sec. 6(1)(c)] is irrelevant: <ul> <li>A. In the following cases, condition (ii) of sec. 6(1) [i.e. sec. 6(1)(c)] is irrelevant:</li> <li>A. In Indian citizen, who leaves India during the previous year for employment purpose.</li> <li>An Indian citizen, who leaves India during the previous year as a member of crew of an Indian origin comes on a visit to India during the previous year, and his total income, other than the income from foreign sources, exceeds ₹ 15 lakhs during the previous year and for 365 or more days during 4 previous years immediately preceding the relevant previous year.</li> <li>If such income does not exceed ₹ 15 lakhs, then condition (ii) of sec. 6(1) is irrelevant.</li> </ul> </li> <li>C. If assessee has satisfied all the condition given u/s 6(1A), he is considered as deemed resident. The conditions are: <ul> <li>a.He is a citizen of India</li> <li>b.His total income, other than the income from foreign sources, exceeds ₹ 15 lakhs during the previous year.</li> </ul> </li> </ul></li></ul>	<ul> <li>following two additional conditions, he will be treated as resident &amp; ordinarily resident in India - <ul> <li>a) He has been resident in India [as per sec. 6(1)] in at least 2 out of 10 previous years immediately preceding the relevant previous year; and</li> <li>b) He has resided in India for a period of 730 days or more during 7 previous years immediately preceding the relevant previous year.</li> </ul> </li> <li>Note: If the assessee is considered as resident by virtue of 120 days + 365 days criteria or he is considered as deemed resident u/s 6(1A), then he is considered as not ordinarily resident in India.</li> </ul>
HUF	Management is wholly or partly situated in India	Karta satisfies both the conditions of sec. 6(6)

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<u>Company</u>		
a) Indian company	Always resident	Not applicable
b) Other company	Place of effective management is in India	
Any other person	Management is wholly or partly situated in India	

#### **Example**

Determine the residential status in the following different cases:

Case	A	В	С	D	E	F	G	н
Citizenship	Foreign	India	India	India	Foreign	Foreign	India	Foreign
Is he person of Indian origin	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Total income (excluding income from foreign source) exceeds ₹ 15,00,000	Yes	No	Yes	Yes	Yes	Yes	No	No
Liable to pay tax in other country	No	No	No	Yes	No	No	No	No
Stay in India during the previous year	30	30	30	30	138	185	85	85
Stay in India during 4 years immediately preceding previous year	380	380	380	380	380	180	380	380
Are dual conditions given u/s 6(6) satisfied	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Residential Status	NR	NR	NOR	NR	NOR	ROR	NR	ROR
Note	1	2	3	4	5	6	7	8

He is not an Indian citizen, hence sec. 6(1A) is not applicable. Further his stay in India during the previous year does not 1. exceed 120 days.

His total income does not exceed ₹ 15,00,000. 2.

- 3. All conditions of sec. 6(1A) are satisfied.
- He is liable to pay tax in other country. 4.
- His stay in India exceeds 120 days (but does not exceed 182 days) 5.
- He has satisfied one condition of sec. 6(1) [i.e. 182 days criteria] and dual conditions of sec. 6(6) 6.
- He is not satisfying any of the condition provided in sec. 6(1) 7.
- He has satisfied one condition of sec. 6(1) [i.e. 182 days criteria] and dual conditions of sec. 6(6) 8.

#### The following chart highlights the provisions of tax incidence in brief:

Nature of Income	Tax incidence in the case of			
	Resident & ordinarily resident	Resident but not ordinarily resident	Non resident	
Income accrued or deemed to be accrued and received or deemed to be received in India	Taxable	Taxable	Taxable	
Income accrued outside India but received or deemed to be received in India.	Taxable	Taxable	Taxable	

Income accrued or deemed to be accrued in India but received outside India	Taxable	Taxable	Taxable
Income accrued and received outside India from a business controlled in or profession set-up in India.	Taxable	Taxable	Not taxable
Income accrued and received outside India from a business controlled or profession set-up outside India.	Taxable	Not taxable	Not taxable
Income accrued and received outside India in the previous year (it makes no difference if the same is later remitted to India).	Taxable	Not taxable	Not taxable
Income accrued and received outside India in any year preceding the previous year and later on remitted to India in current financial year.	Not taxable	Not taxable	Not taxable

<u>Note</u>: In case of resident assessee like company, firm etc. (other than Individual and HUF) in which there is no classification as 'Resident but not ordinarily resident', income accrued and received outside India from a business controlled or profession setup outside India shall be taxable.

#### <u>Example</u>

Ram provides following details of income, calculate the income which is liable to be taxed in India for the A.Y.2022-23 assuming that -

a) He is an ordinarily resident	b) He is not an ordinarily resident	c) He is a non-resident.	
Pc	urticulars	Amount	
Salary received in India from a f	ormer employer of UK	00	1,40,000
Income from tea business in Nep	al being controlled from India	0	10,000
Interest on company deposit in C	1	30,000	
Profit from a business in Mumbai controlled from UK		F/	1,00,000
Profit for the year 2002-03 from a business in Tokyo remitted to India			2,00,000
Income from a property in India but received in USA		(	45,000
Income from a property in London but received in Delhi		_	1,50,000
Income from a property in London but received in Canada			2,50,000
Income from a business in Jambi	a but controlled from Turkey	विगेमच	10,000

#### <u>Solution</u>

Calculation of income liable to be taxed in India of Ram for the A.Y.2022-23

Particulars	Resident &	Resident but not	Non-resident	
	Ordinarily resident	ordinarily resident		

Salary received in India from a former employer of UK	1,40,000	1,40,000	1,40,000
Income from tea business in Nepal being controlled from India	10,000	10,000	Nil
<u>Interest on company deposit in Canada</u> - - 1/3 <sup>rd</sup> received in India	10,000	10,000	10,000
- 2/3 <sup>rd</sup> received outside India	20,000	Nil	Nil
Profit from a business in Mumbai controlled from UK	1,00,000	1,00,000	1,00,000
Past Profit from a business in Tokyo remitted to India	Nil	Nil	Nil



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Income from a property in India but received in USA	45,000	45,000	45,000
Income from a property in London but received in Delhi	1,50,000	1,50,000	1,50,000
Income from a property in London but received in Canada	2,50,000	Nil	Nil
Income from a business in Jambia but controlled from Turkey	10,000	Nil	Nil
Income liable to tax in India	7,35,000	4,55,000	4,45,000







## GROUP: I, PAPER: 8 COST ACCOUNTING (CAC)

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# **Your Preparation Quick Takes**



#### Syllabus Structure

A Introduction To Cost Accounting **40%** 

B

- B Methods of Costing 30%
- C Cost Accounting Techniques 30%



#### Learning Objectives:

- Before taking the examination, it is necessary to read thoroughly the study material first.
- After that select the suitable text book or reference books available in the market for your further study and follow them.
- Next, follow the question papers of previous years and you will be able to get a general idea about the trend or pattern of questions generally set for this type of examination.
- So, if you want to score high marks then along with practical problems you have to answer properly the theoretical part.
- Due to lack of theoretical concepts they cannot score good marks not only in the theoretical part but also in tricky problems.
- Prepare notes on the theoretical part to improve your performance in the examination.



For efficient running of an enterprise, an effective cost accounting system is very much essential for managing the organization. We know the topic Cost Accounting is very vast and varied. A manager cannot avoid decision making even if the decision is to be nothing in a particular situation. Every decision making is focused towards a target goal and without sufficient data decision will lack purpose. An effective decision consumes minimum amount of resources to achieve the desired target. During present days we are leaving in a competitive world where there is also scarcity of natural resources. The urgent need of the day is to utilize the resources efficiently. The role of Cost Accountants in this regard plays a vital part all over the world. Starting as a branch of Financial Accounting, Cost Accountancy has made a remarkable progress during the last few decades.

An intensive study of theory is very much essential for securing good marks in the examination. Hare the students are requested to go through the theoretical part first for easy understanding the topic and then try to solve the problems that are in exercise. Start from Chapter one and try to complete the other chapters serially as this will enable you to understand better the succeeding chapters. This paper is a scoring paper out of the eight papers in the intermediate course of the institute. It is observed from my past experience that 70% to 80% of the total questions are set from practical problems and the rest is out of theoretical part. Although only 20% questions are set form theoretical part but a greater emphasis should be given on theoretical part, as most of the students are very much week in theory. For that the students are requested to go through the theory very carefully for easy understanding the topics and solving the problems. Always try to remember that in professional examinations, emphasis is given on testing comprehension, self expression, understanding and ability to apply knowledge in divergent situation. Success of these examinations mainly depends on student's perseverance, seriousness of study, regularity and through practice.

Some valuable suggestions are given based on my long term personal experience -

- 1. The students should have a well defined plane for completing the syllabus as well as its revision.
- 2. Try to go through your Study Note and know the syllabus properly.
- 3. A plane should be developed for completing the syllabus within stipulated time.
- 4. Try to analyze the trends of setting questions.
- 5. Time schedule with specified activities, which will help you to avoid procrastination.
- 6. Clarity of concepts and self expression is essential for successful result.
- 7. Improve your speed by practice and revision to be able to attempt all questions in limited time.
- 8. Try to write down all the important terms in your own words and practice it regularly.
- 9. The student should remember that all objective type questions should be answered as it will carry 100% marks.
- 10. Try to develop a practice of reading the questions minutely, underlining and understanding the specific requirements.

The total syllabus is segregated into **Six Chapters**. The first chapter relates to the basic concept of cost accounting, beside its other two branches viz, Financial Accounting and Management Accounting. This part discuses the objectives, important, limitation of installation of Costing system. Different methods and technique of cost accounting are also discussed in this chapter. The second chapter relates to the Elements of cost in details. We know the three major elements of costs are - Material, Labour and Overheads. Here the major elements of costs are discussed elaborately and analyzed element-wise with sufficient number of examples. Material consists of the major part of total cost of a product, hence it is necessary to control this cost very carefully. You should read the scope and objectives of different Cost Accounting Standards in details. It will help to grasp the concept of cost accounting clearly.

The third chapter is related to Cost Book-keeping, which includes integrated accounting system also. In the cost books, only nominal accounts, as per example, income and expenses, losses and gains, etc, and some extent, real accounts are recorded. Costing department is concerned with income and expenditure relating to business carried on. The transactions are recorded on the basis of double entry principles. This chapter is very easy to understand but the process is lengthy. In practice, different accounts are to be opened, but it is not necessary to give much effort to complete its solution.

The next chapter is associated with Contract Costing, which is used when job or orders are undertaking in the factory or workshop and when contracts are taken for building a house, construct roads, bridges, damps etc. Students often face difficulty in recommending the profits to be taken into account in case of incomplete contract. There are some standard norms for computation and recognition of profit /loss of incomplete contract. Students sometimes experience difficulty in recommending the amount of profit to be taken into account during a period for long-term contract. Make sure that you are familiar with various methods/formulas for different stage of

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completion and share of profit. Students are also advised to go through the topic "Profit on incomplete contracts based on SSAP-9.". Problems on escalation clause are also very important for this chapter.

In 'Operating Costing' we have to find out operating cost per unit of output. This chapter also includes 'Transport Costing', 'Hospital Costing', 'Power House Costing', 'Hotel/ Hostel Costing' etc. It is very important to calculate the 'Composite Unit' for finding the solution of the problems. For ascertaining cost, a suitable cost unit to be selected very carefully.

The chapter Marginal Costing is not a particular method of cost ascertainment but a technique dealing with nature and behavior of cost and their effect upon the profitability of an organization. It explains the cost -volume- profit relationship of a product. The main thrust should be to follow the wording and determine the desired impact of cost on profitability. The basic part of the problem is to solve Brake -even-point. Sometimes a questions gives details of costs but not the split into fixed and variable elements. Students are advised to segregate total costs into fixed and variable elements using high-low method. For a product of different sales -mix, contribution per unit of key factor should be found out and then different options should be marked on the same basis, i.e. contribution per unit of key factor. For easy understanding you have to solve various types of problems.

In the chapter 'Standard Costing', variances are analyzed in details according to their originating causes. The technique provides a valuable guidance to the management in several managerial functions, such as formulating policies, in determining the price of a product. The chapter helps the management to fix responsibility for each department in order to identify the activities or areas of exceptions. Standard Costing, an accounting technique, came to be develop as a systematic method of comparing the actual cost with the predetermine standard of cost and performance. Any problem on standard cost for working out different variances can be work out by using a standard format applicable to all variance analysis.

The next chapter is related to 'Budget and budgetary control'. The term budget can be expressed as a pre-determined plan of action in details. Budgetary control requires preparation of 'Flexible Budget', 'Functional Budgets' and 'Cash Budget' for taking necessary actions. Both theoretical and practical problems may be set from this chapter. The students can easily understand the problems, if theory remains clear. The students are also suggested to go through the theoretical parts-like, concept of Zero based Budgeting, behavior and classification of Budgets etc. very carefully. All functional budgets are summarized into master budget consisting of a Budgeted Profit and Loss Account, a Balance Sheet and Cash Flow Statement. A common mistake is to incorrectly deduct closing stocks and opening stocks when preparing Production and Material Purchased Budget.

In order to bring uniformity and consistency in classification, measurement and assignment of costs CAS - 1 to 24 should read carefully. Questions are generally set from any one or two standards.

For your practice I have suggested some questions in M.C.Q. form which is related to an over view of Cost Accounting concepts. Practice the following problems for developing your knowledge and securing good marks.

- (i) Facilitates greater degree of control over cost Product (i) The practice of charging all costs to (ii) Standard costing (ii) Absorption costing (iii) A cost unit which consists of a group (iii) Historical costing, estimating costing and standard costing. of similar products (iv) Cost classification (iv) Batch (v) Cost accounting involves (v) Facilities computation of cost variances. (vi) A group of identical items maintaining (vi) Analysis and synthesis of costs . Identity through one or more stages Of production. (vii) What the costs are, what they are (vii) Product Group Likely to be , and how they should be Distinguished, respectively.
- 1. Match the following :

[ Ans . (i), (ii) ; (ii), (v); (iii), (vii); (iv), (i); (v), (vi); (vi), (iv); (vii), (iii).]

2. Point out the statements which are false - (F)/Correct<sup>©</sup> :

(i) Abnormal cost is controllable.

(ii) Cost of production is equal to prime cost plus work cost.

(iii) Variable cost increases as the fixed cost.

(iv) Financial accounting provides information for cost control.

(v) Direct cost is one which can be conveniently identified with and charged to a particular unit of cost.

(vi) Total variable cost does not increase in total proportion to output.

(vii) Variable cost per unit remains constant.

(viii) Sunk costs are relevant for decision -making.

(ix) Costing and cost accounting are the same.

(x) Fixed cost does not change in the same proportion in which output change.

(xi) Administration expenses are mostly fixed.

(xii) Discremental cost means the cost of an added unit.

(xiii) Standard costs tell as what the cost is.

(xiv) Period costs are not assigned to product.

(xv) Marginal cost is not at all helpful to management for decision making.

(xvi) Fixed cost per unit decreases with rise in output and increases with fall in output.

(xvii) Cost centre and cost unit are the same.

[Ans.	(i) C	(ii) F	(iii) F	(iv) F	(v) <i>C</i>	(vi) F
	(vii) C	(viii) F	(ix) F	(x) F	(xi) C	(xii) F
	(xiii) F	(xiv) C	(xv) F	(xvi) C	(xvii) F	

Sometimes service costs are used for decision purpose. In such a case, the decision has to be taken on the basis of unit service cost, when the total units remain constant under different alternatives. But if units are subject to fluctuation from alternative to alternative, decision will be on the basis of total service costs, i.e. total service costs under each of the alternatives should be considered. And the alternative having least cost should be the profitable one.

The term Contract Costing is used by the contractors, builders and engineers, who under take definite contracts such as building construction bridge construction and so on. The contract is usually undertaking for fix period and price, which is payable either on the completion of the contract or by installments, according to the progress of work done. It is a special type of job costing where the unit of cost is a single contract and separate distinguishing number are allotted for each contract to collect cost. An example of Contract Costing is given below:

#### Problem

A contractor secured a contract for the sum of Rs. 150000. An agreement was made with him regarding the contract that he was to receive payment from time to time equal to 90% of the certified work.

He started the work on January 1, 2021 and incurred the following expenses during the year : Material - 20000, Plant and Tools - 20000, Wages - 15000, Sundry Charges - 10000, Establishment charges - 5000.

A part of plant costing Rs. 5000 was unsuitable to the contract and was sold immediately at a profit of Rs. 1000. The value of plant and machinery on 31.12.2021 was Rs. 10000 and material was Rs. 5000; up to 31.12.2021h he had received Rs. 90000. The value of uncertified work was Rs. 10000.

In order to calculate the profit made on the contract up to 31.12.2021, the contractor estimated the further expenditure that would be incurred in completing the contract and profit to be charged to Profit and Loss A/c for the year ended in proportion of the estimated net profit.

He estimated :

- (a) That the contract would be completed within next three months.
- (b) That plant and tools would have a residual value of Rs. 1000 upon the completion of the contract.
- (c) That the wages and material for the next three months would be Rs. 3000 and 5000 respectively.
- (d) The establishment expenses would be increased by 10% p.a.
- (e) 5% of contract value should be considered as contingency.

Prepare the Contract A/c.

#### **Solution**

Dr.	Contro	act A/c	Cr.
Particulars	Amount ( Rs. )	Particulars	Amount (Rs.)
To Material To Plant and Tools To Wages To Sundry Charges To Establishment Charges To Profit & Loss A/c (Profit on sale of plant)	20000 15000		6000 10000 5000 50000 71000
To Cost b/d To Notional Profit c/d	50000 60000 110000	By Uncertified work c/d	100000 10000 110000 60000
To Profit & Loss A/c To Profit Provision c/c	60000 10000 5000	By Notional Profit b/d	<u>60000</u> 18525
To Plant b/d To Material b/d To Uncertified work b/d	10000	By Profit Provision b/d	

#### Workings :

(i) Calculation for Estimated Total cost

<ul> <li>(1) Calculation for Estimated Total cost</li> <li>Cost uptodate</li> <li>Add : Cost to be incurred to complete th</li> <li>Plant &amp; Tools (10000 - 1000)</li> <li>Material (5000 + 5000)</li> <li>Wages</li> <li>Establishment Expenses         <ul> <li>(5000 + 10% of 5000) × 3/2</li> <li>Contingency (5% of Rs. 150000)</li> </ul> </li> <li>Estimated Total Cost</li> </ul>	Rs. 50000 9000 10000 3000 1375 7500 
(ii) Calculation for Estimated Profit	
Value of Contract Less : Estimated Cost	Rs. 150000 80875
Estimated Profit	69125
( iii) Calculation for Profit to be charged Profit to be charged = Estimated Pr = 69125 × 90000/	to Profit & Loss pofit * Cash received / Contract value 150000 = Rs. 41475



#### Behind every successful business decision, there is always a CMA



## GROUP: II, PAPER: 9, Part- i OPERATIONS

MANAGEMENT & STRATEGIC MANAGEMENT (OMSM) Operations Management **CMA Ankan K Bandyopadhyaya** He can be reached at: abanerjee8533@gmail.com

# **Your Preparation Quick Takes**



Syllabus StructureA Operations Management 70%B Strategic Management 30%



#### Learning Objectives:

- Operations Management develops skills in problem solving, project management, communication, and managing effectively in team-based work environments.
- Eventually, student's ability for leadership positions in the production and service industries gets increased.
- To solve business processes, it helps to apply knowledge of fundamental concepts of operations management and helps to apply knowledge of approaches to operational performance improvement.

**Operations** Management

In this issue let us discuss Management of Waiting Lines with numerical illustration.

As already told many queuing models are available to choose from. The following is the list of symbols, already discussed in last issue used in doing analysis with queuing models:

Symbol	Represents	Diagrammatic Representation
λ	Customer arrival rate	
μ	Service rate per server	A
$L_q$	The average number of customers waiting for service	Line + Service = System Customers • • • • • • • • •
L <sub>s</sub>	The average number of customers in the system (waiting and/or being served)	(4) $L_q + r = L_s$
r	Average number of customers being served	0
ρ	The system utilization	10
$W_q$	The average time customers wait in line	System
Ws	The average time customers spend in the system (waiting in line and service time)	Customers (3) (1) (4) $W_q$ + Service time = $W_s$
М	No of servers	A BARRIST AND
L <sub>max</sub>	The maximum expected number waiting in line	N.S.
$L_q'$	Expected length of non- empty queues	$\frac{1}{1-\rho} \text{ or } \frac{\mu}{\mu-\lambda}$

Basic relationship--

(a) System utilisation: This reflects the ratio of demand (as measured by the arrival rate) to supply or capacity (as measured by the product of the number of servers, M and the service rate,  $\mu$ )

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(b) Average number of customers being served:  $r = \frac{\lambda}{\mu}$  ......(2)

(c) For a stable system average number of customers in line or in the system is equal to the average customer arrival rate multiplied by the average time in line or in the system. That is

 $L_s = \lambda * W_s = \frac{\lambda}{\mu - \lambda}$  &  $L_q = \lambda * W_q = \frac{\lambda^2}{\mu(\mu - \lambda)}$ .....(3)

(d) The average time customers are waiting in line  $W_q = \frac{L_q}{\lambda}$ .....(4)

(e) The average time customers are in the system  $W_s = W_q + \frac{1}{\mu} = \frac{L_s}{\lambda}$ .....(5)

Illustration1: Customers arrive at a bakery at an average rate of 15 per hour on weekday mornings. The arrival distribution can be described by a Poisson distribution with a mean of 15. Each staff can serve a customer in an average of three minutes. This time can be described by an exponential distribution with a mean of 3 minutes. (a) What are the arrival and service rates?

(b) Compute the average number of customers being served at any time

(c) Suppose it has been determined that the average number of customers waiting in line is 9. Compute the average number of customers in the system (i.e. waiting in line or being served), the average time customers wait in line and the average time in the system

(d) Determine the system utilisation for M = 1,2 and 3 servers

Ans:

(a) As per question  $\lambda$ = Customer arrival rate = 15 customers per hour.

Each staff can serve a customer in an average of 3 minutes.

In 3 minutes-----1 customer

In 1 minute-----1/3 customer

In 60 minute, i.e. in 1 hour----60/3 = 20 customers =  $\mu$ 

(b) Average number of customers being served at any time =  $r = \frac{\lambda}{\mu} = \frac{15}{20} = 0.75$ 

(c) The average number of customers in the system  $L_s = \lambda * W_s$ 

Where  $W_s = W_q + \frac{1}{\mu} = \frac{L_s}{\lambda}$  &  $W_q = \frac{L_q}{\lambda}$ 

By question the average number of customers waiting for service (waiting in line) = 9 So  $W_q = \frac{L_q}{\lambda} = \frac{9}{15}$ 

 $30 w_q = \frac{1}{\lambda} = \frac{1}{15}$ 

Then  $W_s = W_q + \frac{1}{\mu} = \frac{9}{15} + \frac{1}{20} = 0.65$ 

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**So**  $L_s = \lambda * W_s = 15 * 0.65 = 9.75$ 

(d) From equation (1) we could write  $\rho = \frac{\lambda}{M\mu} = \frac{15}{1*20} = 0.75$  for 1 server. Similarly for 2 and 3 servers  $\rho = 0.375 \& 0.25$  respectively

Illustration2: Customers arrive at a bakery at an average rate of 18 per hour on weekday mornings. The arrival distribution can be described by a Poisson distribution with a mean of 18. Each staff can serve a customer in an average of three minutes. This time can be described by an exponential distribution with a mean of 3 minutes. (a) What are the arrival and service rates?

(b) Compute the average number of customers being served at any time

(c) Suppose it has been determined that the average number of customers waiting in line is 8. Compute the average number of customers in the system (i.e. waiting in line or being served), the average time customers wait in line and the average time in the system

(d) Determine the system utilisation for M = 1,2 and 3 servers

Ans:

(a) As per question  $\lambda$ = Customer arrival rate = 18 customers per hour.

Each staff can serve a customer in an average of 3 minutes.

In 3 minutes-----1 customer

In 1 minute-----1/3 customer

In 60 minute, i.e. in 1 hour----60/3 = 20 customers =  $\mu$ 

(b) Average number of customers being served at any time =  $r = \frac{\lambda}{\mu} = \frac{18}{20} =$ 

0.9 customers

(c) The average number of customers in the system  $L_s = \lambda * W_s = L_q + r = 8 + 0.9 = 8.9$ 

Where  $W_s = W_q + \frac{1}{\mu} = \frac{L_s}{\lambda}$  &  $W_q = \frac{L_q}{\lambda}$ 

By question the average number of customers waiting for service (waiting in line) = 8

So 
$$W_q = \frac{L_q}{\lambda} = \frac{8}{18} = 0.44 hour$$

Then  $W_s = W_q + \frac{1}{\mu} = \frac{8}{18} + \frac{1}{20} = 0.49$  hour

**So**  $L_s = \lambda * W_s = 18 * 0.49 \sim 8.9$ 

(d) From equation (1) we could write  $\rho = \frac{\lambda}{M\mu} = \frac{18}{1*20} = 0.9$  for 1 server. Similarly for 2 and 3 servers  $\rho = 0.45 \& 0.3$  respectively



#### **STUDENTS' E-bulletin Intermediate**

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The simplest model involves a system that has one server. The queue discipline is first come first served and it is assumed that the customer arrival rate can be approximated by a Poisson distribution and service time by negative exponential distribution. There is no limit on length of queue. The following table lists the formulas for the single server model which should be used in conjunction with the formulas already discussed above:

Performance Measure	Equation
Average number in line .i.e. waiting to be served	$L_q = \frac{\lambda^2}{\mu(\mu - \lambda)} \dots \dots$
Probability of zero units in the system	$P_0 = 1 - (\frac{\lambda}{\mu})$ (7)
Probability of n units in the system	$P_n = P_0(\frac{\lambda}{\mu})^n \dots (8)$
Probability of less than n units in the system	$P_{(9)$

Illustration3: An airline is planning to open a satellite ticket desk in a new shopping plaza, staffed by one ticket agent. It is estimated that requests for tickets and information will average 15 per hour and requests will have a Poisson distribution. Service time is assumed to be exponentially distributed. Previous experience with similar satellite operations suggests that mean service time should average about 3 minutes per request. Determine

(i) System Utilisation

- (ii) Percentage of time the service (agent) will be idle
- (iii) The expected number of customers waiting to be served
- (iv) The average time customers will spend in the system
- (v) The probability of four customers in the system.

Ans: As per question  $\lambda$ = request arrival rate = 15 customers per hour.

Each request for service is served in an average of 3 minutes.

In 3 minutes-----1 request

In 1 minute-----1/3 request

In 60 minute, i.e. in 1 hour----60/3 = 20 requests =  $\mu$ 

Utilisation with one server (one agent) i.e. with M =1

$$\rho = \frac{\lambda}{M\mu} = \frac{15}{1*20} = 0.75$$

The agent will be idle if there are no request i.e. we want to find Probability of zero units in the system which is equal to  $P_0 = 1 - \left(\frac{\lambda}{\mu}\right) = 1 - \frac{15}{20} = 0.25$ 

The expected number of customers waiting to be served =  $L_q = \frac{\lambda^2}{\mu(\mu-\lambda)} = \frac{15^2}{20(20-15)} = 2.25$  customers

The average time customers spend in the system (waiting in line and service time) =  $W_s = W_q + \frac{1}{\mu} = \frac{L_s}{\lambda} = \frac{L_q}{\lambda} + \frac{1}{\mu} = \frac{2.25}{15} + \frac{1}{20} = 0.15 + 0.05 = 0.20 = 12 \text{ minutes}$ 

The probability of four customers in the system = Probability of n units in the system =  $P_n = P_0(\frac{\lambda}{\mu})^n = 0.25(\frac{15}{20})^4 = 0.079$ 

Of the numerous queuing models available, we shall consider the following models:

(a) Poisson -exponential single server model infinite population

(b) Poisson - exponential single server model finite population

(c) Poisson - exponential multiple server model infinite population

In each of these cases the words Poisson – exponential indicate that the customer arrivals follow Poisson distribution while the service time are distributed exponentially

If the arrivals are independent with the average arrival rate equal to  $\lambda$  per period of time, then according to the Poisson probability distribution, the probability that n customers will arrive in the system during a given time interval T is given by the following

Illustration 4: On an average, 6 customers reach a barber's shop every hour. Determine the probability that exactly 2 customers will reach in a 30 minutes period, assuming that the arrivals follow Poisson distribution

Ans: By question  $\lambda$  = Customer arrival rate = 6 customers/hour. So in a 30 minute (0.5 hour) period m = 6 \* 0.5 = 3 customers

So by formula (10)  $P = e^{-m} \frac{m^n}{n!} = 2.7183^{-3} \frac{3^2}{2!} = 0.224$ 

Illustration 5: On an average, 10 customers reach a movie ticket counter every hour. Determine the probability that exactly 4 customers will reach in a 30 minutes period,

assuming that the arrivals follow Poisson distribution

Ans: By question  $\lambda$  = Customer arrival rate = 10 customers/hour. So in a 30 minute (T = 0.5 hour) period  $m = \lambda T = 10 * 0.5 = 5$  customers

So by formula (10) 
$$P = e^{-m} \frac{m^n}{n!} = 2.7183^{-5} \frac{5^4}{4!} = 0.175$$

Similarly when the time taken to serve different customers are independent, the probability that no more than T periods would be required to serve a customer is given by exponential distribution as follows:

Illustration 6: The manager of a bank observes that on an average, 18 customers are served by a cashier in an hour. Assuming that the service time has an exponential distribution what is the probability that (a) a customer shall be free within 3 minutes (b) a customer shall be serviced in more than 12 minutes?

Ans: (a) By question  $\mu$  = Service rate per server = 18 customers/hour, T = 3 minutes = 0.05 hour So  $P(<3) = 1 - e^{-1} * 0.05 = 0.593$ 

(b) By question  $\mu$  = Service rate per server = 18 customers/hour, T = 12 minutes = 0.2 hour So  $P(\ge 12) = e^{-18*0.2} = 0.027$ 

P(a customer shall wait for t minutes or more in the queue) =  $\rho e^{-t/W_S}$  ...... (12)

P(a customer shall be in the system for more than t minutes) =  $e^{-t/W_s}$ ......(13)

Illustration 6: A tailor specializes in ladies' dresses. The number of customers approaching the tailor appear to be Poisson distributed with a mean of 6 customers per hour. The tailor attends the customers on a first come first served basis and the customers wait if the need be. The tailor can attend the customers at an average rate of 10 customers per hour with the service time exponentially distributed. Required:

(a) Find the probability of the number of arrivals (0 through 5) during (i) a 15 minute interval and (ii) a 30 minute interval

- (b) The utilisation parameter
- (c) The probability that the queuing system is idle
- (d) The average time that the tailor is free on a 10 hour working day

(e) The probability associated with the number of customers (0 through 5) in the queuing system

(f) What is the expected number of customers in the tailor shop?

(g) What is the expected number of customers waiting for tailor's services?

(h) What is the average length of queues that have at least one customer?
(i) How much time should a customer expect to spend in the queue?
(j) What is the expected time a customer would spend in the tailor's shop?
(k) Assuming that n > 0 (i.e. customers are in the system) what is the probability that the waiting time (excluding the service time) of a customer in the queue shall be more than 10 minutes?

(I) Assuming that the customers are in the system, what is the probability that a customer shall be in the shop for more than 15 minutes?

Ans:



n	T = 1/4 hr	T= 1/2 hr
0	0.2231	0.0498
1	0.3347	0.1494
2	0.2510	0.2240
3	0.1255	0.2240
4	0.0471	0.1680
5	0.0141	0.1008

So by formula (10)  $P = e^{-m} \frac{m^n}{n!}$  the probabilities are:

(b) From equation (1) we could write  $\rho = \frac{\lambda}{M\mu} = \frac{6}{1*10} = 0.6$ (c) From equation (7) we could write  $P_0 = 1 - \left(\frac{\lambda}{\mu}\right) = 1 - \frac{6}{10} = 0.4$ 

(d) Average time that the tailor is free on a 10 hour working day =  $P_0 * 10 = 4 hrs$ 

(e) From equation (8) we could write  $P_n = P_0(\frac{\lambda}{\mu})^n$ . So the requisite probabilities are

1	2
n	$P_0(\frac{\lambda}{\mu})^n$
0	0.4
1	0.24
2	0.144
3	0.0864
4	0.05184
5	0.031104



f) The average number of customers in the system (waiting and/or being served)  $L_s = \frac{\rho}{1-\rho} = \frac{0.6}{1-0.6} = 1.5$ 

(g) The expected number of customers waiting for tailor's services  $L_q = \frac{\lambda^2}{\mu(\mu-\lambda)} =$ 2 020

$$\frac{\rho^{-1}}{1-\rho} = \frac{0.38}{1-0.6} = 0.9$$

(h) Average length of queues that have at least one customer = Expected length of non-empty queues =  $L_q' = \frac{1}{1-\rho} = \frac{1}{1-0.6} = 2.5$ i) The average time customers wait in line =  $W_q = \frac{L_q}{\lambda} = \frac{1}{\lambda} * \frac{\lambda^2}{\mu(\mu-\lambda)} = \frac{\lambda}{\mu(\mu-\lambda)} = \frac{6}{10(10-6)} = \frac{1}{10(10-6)}$ 0.15hr

(j) The average time customers spend in the system (waiting in line and service time) =  $W_s = W_q + \frac{1}{\mu} = \frac{L_s}{\lambda} = 0.15 + \frac{1}{10} = 0.25hr$ 

(k) Probability that a customer shall wait for more than 10 minutes in the queue  $P(t \ge t)$  $10) = \rho e^{-t/w_s} = 0.6 * e^{-10/15}$ (1) Probability that a customer shall be in the shop for more than 15 minutes =  $e^{-t/W_S} = e^{-15/15} = 0.368$ 



Illustration 8: The Taj Service station has a central store where service mechanics arrive to take spare parts for the jobs they work upon. The mechanics wait in queue if necessary and are served on a first cum first served basis. The store is manned by one attendant who can attend 8 mechanics in an hour on an average. The arrival rate of the mechanics averaging 6 per hour. Assuming that the pattern of mechanic's arrivals is Poisson distribution and the servicing time is exponentially distributed, determine  $W_s$ ,  $W_q$ ,  $L_q$  where the symbols carry their usual meaning.

Ans: (a) As per question  $\lambda$ = Mechanics arrival rate = 6 per hour.

Service rate =  $\mu$  = 8 per hour

Average number of customers being served at any time =  $r = \frac{\lambda}{\mu} = \frac{6}{8} = 0.75$  mechanics

$$L_q = \frac{\lambda^2}{\mu(\mu - \lambda)} = \frac{\rho^2}{1 - \rho} = \frac{6^2}{8(8 - 6)} = \frac{0.75^2}{1 - 0.75} = 2.25 mechanics$$

(c) The average number of customers in the system  $L_s = \lambda * W_s = L_q + r = 2.25 + 0.75 = 3$ 

Where  $W_s = W_q + rac{1}{\mu} = rac{L_s}{\lambda}$  &  $W_q = rac{L_q}{\lambda}$ 

By question the average number of mechanics waiting for service (waiting in line) = 2.25

So 
$$W_q = \frac{L_q}{\lambda} = \frac{2.25}{6} = 0.375$$
 hour = 22.5 minutes

Then 
$$W_s = W_q + \frac{1}{\mu} = 0.375 + \frac{1}{8} = 0.5$$
 hour  $= \frac{1}{\mu - \lambda} = \frac{1}{8 - 6} = 0.5$  hour  $= 30$  minutes

**So**  $L_s = \lambda * W_s = 6 * 0.5 = 3$ 

Illustration 9: Arrivals at a telephone booth are considered to be Poisson, with an average time of 12 minutes between one arrival and the next. The length of a phone call is assumed to be distributed exponentially, with mean 3 minutes. Find (a) The probability that an arrival finds that four persons are waiting for their turn; (b) The average number of persons waiting and making telephone calls; (c) The average length

of the queue that is formed from time to time.

Ans: The average inter arrival time being 12 minutes, the average arrival rate = 60/12 = 5 customers /hour =  $\lambda$ .

The length of a phone call is assumed to be distributed exponentially with mean 3 minutes, the service time = 60/3 = 20 customers/hour =  $\mu$ 

Therefore  $\rho = \frac{\lambda}{\mu} = \frac{5}{20} = 0.25$ (a) Probability of n units in the system =  $P_n = P_0(\frac{\lambda}{\mu})^n$ 



Now from (7) we can write  $P_0 = 1 - (\frac{\lambda}{\mu})$ . So  $P_0 = 1 - (\frac{\lambda}{\mu}) = 1 - (\frac{5}{20}) = 0.75$ So  $P_n = P_0(\frac{\lambda}{\mu})^n = P_4 = P_0(\frac{\lambda}{\mu})^5 = 0.75(\frac{5}{20})^5 = 0.000732$  [One arrival sees 4 waiting. So there are 4+1 = 5 units]

(b) The average number of customers in the system (waiting and/or being served)  $L_s = \lambda * W_s = \frac{\rho}{1-\rho} = \frac{0.25}{0.75} = 0.33$ 

(c) Expected length of non-empty queues  $\frac{1}{1-\rho} = \frac{1}{0.75} = 1.33$ 

Illustration 10: The maruti service station has a central store where service mechanics arrive to take spare parts for the jobs they work upon. The mechanics wait in queue if necessary and are served on a first come first served basis. The store is manned by one attendant who can attend 10 mechanics in an hour on an average. The arrival rate of the mechanics averages 6 per hour. Assuming that the pattern of mechanics' arrivals is Poisson distribution and the servicing time is exponentially distributed, determine  $W_S, W_q \& L_q$ , where the symbols carry their usual meaning.

Ans: The average arrival time  $\lambda = 6$ , and the service time  $= \mu = 10$ So  $= \frac{\lambda}{\mu} = \frac{6}{10} = 0.6$ So  $W_s = W_q + \frac{1}{\mu} = \frac{L_s}{\lambda} = \frac{1}{\mu - \lambda} = \frac{1}{10 - 6} = 0.25$  hour  $W_q = \frac{L_q}{\lambda} = \frac{\lambda}{\mu(\mu - \lambda)} = \frac{6}{10(10 - 6)} = 0.15$  hour  $L_q = \frac{\lambda^2}{\mu(\mu - \lambda)} = \frac{36}{10(10 - 6)} = 0.90$ 

Illustration 11: Customers arrive at the first class ticket counter of a theatre at a rate of 12 per hour. There is one clerk serving the customers at a rate of 30 per hour. (a) What is the probability that there is no customer in counter? (b) What is the probability that there are more than 2 customers in the counter? (c) What is the probability that there is no customer waiting to be served? (d) What is the probability that a customer is being served and nobody is waiting?

Ans:

By question  $\lambda = 12$ /hour,  $\mu = 30$ /hour. So  $\rho = \frac{\lambda}{\mu} = \frac{12}{30} = 0.4$ (a) Probability of zero units in the system  $P_0 = 1 - (\frac{\lambda}{\mu}) = 1 - 0.4 = 0.6$ 

(b) The probability that there are more than 2 customers in counter = 1 - P(0) - P(1) - P(2)

We know that Probability of n units in the system  $P_n = P_0(\frac{\lambda}{u})^n$ . In this case n = 0, 1, 2

$$P(1) = P_0(\frac{\lambda}{\mu})^n = 0.6 * (0.4)^1 = 0.24$$
$$P(2) = P_0(\frac{\lambda}{\mu})^2 = 0.6 * (0.4)^2 = 0.096$$

So probability that there are more than 2 customers in counter = 1 - 0.6 - 0.24 - 0.096 = 0.064

(c) A case of no customer waiting to be served happens only either there will be no customer P (0) or One customer being served (As there is only one serving clerk) P (1)

So required probability P(0) + P(1) = 0.6 + 0.24 = 0.84

(d) Customer is being served and nobody is waiting- In this case there will be only 1 customer in the system.

We know that Probability of n units in the system  $P_n = P_0(\frac{\lambda}{\mu})^n$ . So P (1) = 0.24

Illustration 12: Assume at a bank teller window the customers arrive in their cars at the average rate of 20/hour according to a Poisson distribution. Assume also that the bank teller spends an average of 2 minutes per customer to complete a service and the service time is exponentially distributed. Customers who arrive from an infinite population are served on a first come first served basis and there is no limit to possible queue length. (a) What is the expected waiting time in the system per customer? (b) What is the mean number of customers waiting in the system? (c) What is the probability of zero customers in the system? (d) What value is the utilisation factor?

#### Ans:

By question A = 20/hour,  $\mu = \frac{60}{2} = 30/hour$  . So  $\rho = \frac{\lambda}{\mu} = \frac{20}{30} = 0.67$ 

(a) The average time customers are in the system  $W_s = W_q + \frac{1}{\mu} = \frac{L_s}{\lambda} = \frac{1}{\mu - \lambda} = \frac{1}{30 - 20} = 0.1$  hour

(b) The average number of customers waiting in the system =  $L_q = \frac{\lambda^2}{\mu(\mu-\lambda)} =$ 

$$\frac{20*20}{30*(30-20)} = 1.33$$

(c) Probability of zero units in the system  $P_0 = 1 - \left(\frac{\lambda}{\mu}\right) = 1 - 0.67 = 0.33$ 

(d) Utilisation factor =  $\rho = \frac{\lambda}{\mu} = \frac{20}{30} = 0.67$ 

Suggestions:

This lesson could be used as an aid to teaching on queuing models in study notes. Concept of waiting line is vital for analysis of queuing models under chapter Production, Planning and control. These discussions are in addition to knowledge imparted by study guide. For Proper understanding of waiting line all possible formulas are given in this issue. Attempts are made here to indicate few important symbols used in model on infinite source. For supplementary readings one can refer Operations Management by R.S. Russell & B.W. Taylor, Operations Management by J Stevenson, Productions and Operations management by R.B. Khanna & Quantitative Techniques in Management by N. D. Vora Best Wishes





### GROUP: II, PAPER: 9, Part- ii

## OPERATIONS

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# **Your Preparation Quick Takes**



Syllabus StructureA Operations Management 70%B Strategic Management 30%



#### Learning Objectives:

- The course will follow in general terms the strategy development process from audit to formulation of strategic plans, their implementation and evaluation.
- Students will be introduced to strategic management in a way so that their understanding can be better.
- The ultimate aim of the course is to develop students as future managers who will add value by 'strategically managing' the organisation's resources and capabilities.

#### STRATEGIC MANAGEMENT

- 1. What are the means by which long term objectives will be achieved?
- A. Strategies
- B. Policies
- c. Strength
- D. Opportunities
- Answer: A
- 2. Marketing strategy is a -----type of strategy
  - A. Business level
  - B. Growth strategy
  - C. Corporate strategy
  - D. Functional strategy
  - Answer: D
- 3. When does horizontal integration occur?
  - A. When a firm acquires or merges with a major competitor
  - B. When a firm acquires or merges with an unrelated business
  - C. When a firm acquires or merges with a distributor
  - D. When a firm acquires or merges with a supplier firm

Answer: A

- 4. A company is deciding whether to expand into manufacturing kitchen equipment in a country outside India. At what level is this decision likely to be made?
  - A. Business
  - B. Corporate
  - C. Functional
  - D. International

Answer: B

- 5. Internal audit is done:
  - A. Before external audit
  - B. After external audit
  - C. Parallel to external audit
  - D. Vertical to external audit

Answer: C

6. The magnitude and changes that may affect an organizations survival owing to all of the following except:

- A. Merger-mania
- B. Demographics

C. E-commerce D. Dubious firms Answer: D

- 7. The word tactics is most likely associated with:
  - A. Business strategy
  - B. Corporate strategy
  - C. Operational strategy
  - D. All of the above **Answer:** C
- 8. Strategic management handles:
  - A. External issues
  - B. Management issues
  - C. Internal issues



D. Administrational issues **Answer:** A

- 9. The pie slices within the circles of a -----reveal the percent of corporate profits contributed by each division
  - A. QSPM
  - B. BCG matrix
  - C. SPACE matrix
  - D. Grand strategy matrix
  - Answer: B
- 10. Select the statement that best implies to emergent strategies. Emergent strategy....
- A. Implies an ability to react to events
- B. Implies strategizing
- C. Implies no deviation from plans
- D. Implies constant evaluation of the bigger picture
- Answer: A
- 11. International business has recently grown at a rapid pace because of:
  - A. Stricter government policies on cross-border movements
  - B. Development of institutions to support and facilitate trade
  - C. Decreasing global competition
  - D. Companies increased concerns with terrorism

#### Answer: B

#### 12. Exports and imports apply mostly to which of the following?

- A. Services
- B. Merchandise
- C. Intellectual property
- D. Licensing
- Answer: B

#### 13. Why should Government seek to regulate?

- A. To control competition and stop monopoly power
- B. To minimize resource wastage and monopoly power
- C. To control competition and minimize resource wastage
- D. To control competition, minimize resource wastage, and inhibit the exploitation of weak buyers and suppliers Answer: D

#### 14. In order to have controlling interest in a foreign company:

- A. An investor must have at least 100 % interest in the foreign company
- B. An investor must have at least 50% interest in the foreign company
- C. An investor may hold a minority stake if the remaining ownership is widely dispersed
- D. An investor must make all decisions at headquarters about the foreign company Answer: C

#### 15. The acronym SWOT stands for:

- A. Special Weapons for Operations Timeliness
- B. Services, Worldwide Optimization and Transport

C. Strengths, Weakness, Opportunities and Threats

D. None of the above

Answer: C





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## GROUP: II, PAPER:10 COST & MANAGEMENT ACCOUNTING AND FINANCIAL

MANAGEMENT(CMFM)

# **Your Preparation Quick Takes**



## Syllabus StructureA Cost & Management Accounting 50%B Financial Management 50%


#### Learning Objectives:

The paper Cost & Management Accounting and Financial Management (Group II; Paper 10) is a unique blend of theoretical elaborations and practical illustrations. The aim of this paper is to equip the students with a working level knowledge regarding the two disciplines and prepare a ground for a few advanced level papers like Strategic Financial Management (Final Group 3: Paper 14), Strategic Cost Management decision Making (Final Group 3:Paper15) and Strategic Performance Management and Business Valuation (Final Group 4: Paper 20) in the CMA Final Course. The entire syllabus of the paper is segregated into two segments namely Cost & Management Accounting (Section A: Full Marks 50) and Financial Management (Section B: Full Marks 50). Each of the individual sections has further been divided into five chapters each highlighting a specific aspect of the subject concerned. In this section of e- bulletin we shall have a series of discussion on each of these chapters to provide a meaningful assistance to the students in preparing themselves for the examination at the short end and equip them with sufficient knowledge to deal with real life complications at the long end.



#### Question No. - 1 (Overhead)

In Department A of a plant, the following data are submitted for the week ended 28<sup>th</sup> Feb, 2022 :

Standard output for 40 hours per week	1400 units
Budgeted fixed overheads	Rs.1400/-
Actual output	1200 units
Actual hour worked	32 hours
Actual fixed overheads	Rs.1500/-

-

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#### What shall be the :-

	[ BASIC COMPUTATIONS ]	/	G AON
1)	Fixed overhead Rate per unit		(a) Re.1.00 (b) Rs.1.50 (c) Rs.2.00 (d) Rs.2.50
2)	Std Fixed OH for Actual Production	3	(a) Rs.1100 (b) Rs.1150 (c) Rs.1200 (d) Rs.1250
3)	Production of Standard Quantity in Actual Hour	1	(a) 1100 units (b) 1110 units (c) 1120 units (d) 1130 units
4)	Std Rate of Fixed OH per Hour	1	(a) Rs.34 (b) Rs.35 (c) Rs.36 (d) Rs.37
5)	Std Hour for Actual Production	:	(a) 31.2857 Hr (b) 32.2857 Hr (c) 33.2857 Hr (d) 34.2857 Hr
	[ VARIANCES ]		4
6)	Fixed OH Volume Variance	ŧ	(a) Rs.200 A (b) Rs.200 F (c) Rs.250 F (d) Rs.250 A
7)	Fixed OH Efficiency Variance	:	(a) Rs.78 A (b) Rs.78 F (c) Rs.80 F (d) Rs.80 A
8)	Fixed OH Capacity Variance	:	(a) Rs.280 A (b) Rs.280 F (c) Rs.290 F (d) Rs.290 A
9)	Fixed OH Expenditure Variance	:	(a) Rs.90 A (b) Rs.90 F (c) Rs.100 F (d) Rs.100 A
10)	Fixed OH Cost Variance	÷	(a) Rs.300 F (b) Rs.300 A (c) Rs.350 A (d) Rs.350 F

#### Answer :

- 1) (a) Re.1.00
- 4) (b) Rs.35
- 7) (c) Rs.80 F
- 10) (b) Rs.300 A
- 2) (c) Rs.1200
- 5) (d) 34.2857 Hr
- 8) (a) Rs.280 A
- 3) (c) 1120 unit
- 6) (a) Rs.200 A
- 9) (d) Rs.100 A

#### Steps for Solution for both Question 1 and 2 :

- 1) Draw diagrams as shown in respect of each Question.
- 2) Put the given data as well as data derived from the Working Notes in the appropriate places of the diagrams as specified.
- 3) Start connecting the same by the arrows having spearheads in the way embodied therein.



- 4) The requisite Variances will emerge automatically.
- 5) In case of any difficulty, please have a look to the Solutions through diagrams at the end of this e-bulletin.

#### Solution with Working Notes :

Solution : Basic data : Actual Production (AP) = 1200 Units.





Worki	ng Note	s : 2	
Stand	ard Quan	ntity in acti	ual Hour = 1120
ſ	Hour	Quantity	
Std	40	1400	
	1	35	
L	32	1120	



Alternatively :



#### Question No. - 2 (Working back)

The budgeted output of a manufacturing company is 4,000 units per month. During February, 2022, the company produced 3,600 units and the actual financial results were as under :

	Rs.
Sales	2,23,200
Direct Materials	55,115
Direct wages	37,485
Variable overheads	72,675
Fixed overhead	41,500



Total Cost	2,06,775
Profit	16,425

The Cost Accounts Department charged standard direct wages and standard variable overheads at Rs.5 and Rs.10 per hour respectively and extracted for following variances for the month :

				K3.
	Direct Materials :		Price variance	365 (A)
			Usages variance	750 (A)
	Direct Wages		Rate variance	765 (F)
			Efficiency variance	2250 (A)
	Variable overhead		Efficiency variance	4500 (A)
		1	Expense variance	3825 (F)
	Fixed overheads	1	Expense variance	1500 (A)
	Sales	c	Price variance	7200 (F)
Wh	at shall be the :-	Ũ	JAN C	
	[ REG. DIRECT MATERIALS ]		62 2	
1)	Standard Cost of Actual		(a) Rs.51,000 (b) R	Rs.52,000 (c) Rs.53,000 (d)
	Production (SCAP)		Rs.54,000	
2)	Std Rate per unit of Production	122		Pe 16 (d) Pe 17
3)	Cost Variance			15 F (c) Rs.1120 F (d) Rs.1120 A
•,	[ REG. DIRECT LABOUR ]	-97		
4)	Std Cost of Actual Production		(a) Rs.34000 (b)	Rs.35000 (c) Rs.36000 (d)
	(SCAP)		Rs.37000	
5)		÷.	(a) 2 Hrs. (b) 3 Hrs. (	c) 4 Hrs. (d) 5 Hrs.
6)	Std Cost per unit of Production	¥.	(a) Rs.8 (b) Rs.9 (c) R	
7)	Cost Variance	k		Rs.1475 F (c) Rs.1485 F (d)
		Z	Rs.1485 A	
	[ REG. VARIABLE OVERHEADS	1	1	
8)	Std time per unit of Production	1	(a) 1 Hr (b) 1.5 Hrs. (a	c) 2 Hrs. (d) 2.5 Hrs.
9)	Std V.OH Cost per unit of	*	(a) Rs.15 (b) Rs.20 (c)	Rs.25 (d) Rs.30
	Production		RITS	
10)	Cost Variance	:	(a) Rs.665 A (b) Rs.66	65 F (c) Rs.675 F (d) Rs.675 A
	[ REG. FIXED OVERHEADS ]	-	-oma-	
11)	Std F.OH per unit of Production	Æ.	(a) Rs.10 (b) Rs.11 (c)	Rs.12 (d) Rs.13
	Std F.OH for Actual Production			Rs.36000 (c) Rs.37000 (d)
1000				

- 13) F.OH Volume Variance
- 14) F.OH Cost Variance
- 15) Budgeted Fixed OH
  - [ REG. SALES ]
- (AQ)
- 17) Std / Budgeted Sales Price
- 18) Budgeted Sales

: (a) Rs.3500 A (b) Rs.3500 F (c) Rs.4000 A (d) Rs.4000 F

Rs.

- : (a) Rs.5500 F (b) Rs.5500 A (c) Rs.6000 F (d) Rs.6000 A
- : (a) Rs.40000 (b) Rs.41000 (c) Rs.42000 (d) Rs.43000
- 16) Std Sales on Actual Quantity : (a) Rs.215000 (b) Rs.216000 (c) Rs.217000 (d) Rs.218000
  - : (a) Rs.58 (b) Rs.59 (c) Rs.60 (d) Rs.61
    - : (a) Rs.237000 (b) Rs.238000 (c) Rs.239000 (d) Rs.240000



19)	Sales	s Value Variance		:	(a) Rs.16000 F Rs.16800 A	(b) F	Rs.1600	00 A (c)	Rs.16800 F	= (d)
201	20) Sales Volume V			(a) Rs.24000 A	(h) [	2 240	00 E (c)	De 25000 F		
20)	Jules	s volume v			Rs.25000 A	(0) -	\$3.240		K3.23000 I	(u)
21)		eted Cost per unit of uction	Ē		(a) Rs.55 (b) Rs.	.56 (c	) Rs.57	7 (d) Rs.58	3	
22)		eted Profit per unit			(a) Rs.8 (b) Rs.7	(c) R	s 6 (d)	Rs 5		
23)		l Budgeted Profit			(a) Rs.19000 Rs.22000				Rs.21000	(d)
24)	Actu	al Margin per unit		:	(a) Rs.7 (b) Rs.8	(c) R	s.9 (d)	Rs.10		
25)		l Actual Margin			(a) Rs.24900 (b				Rs.25200	
26)		s Margin Value Variar	nce	2	(a) Rs.5200 A Rs.5300 A					(d)
27)	Sales	s Margin Volume Vari	ance	c	(a) Rs.2000 A Rs.3000 A	(b) I	Rs.200	00 F (c)	Rs.3000 F	(d)
Ans	wer:			9/	Some	21				
	1)	(d) Rs.54000	2)	(b	) Rs.15	51	3)	(a) Rs.111	5 A	
	4)	(c) Rs.36000	5)	(a	) 2 Hrs.	1	6)	(c) Rs.10		
	7)		8)		) 2 Hrs.	12	9)	(b) Rs.20		
	10)		11)		) Rs.10	1º	12)	(b) Rs.36		
		(c) Rs.14000 A	14)		) Rs.5500 A	Z	15)	(a) Rs.40		
		(b) Rs.216000	17)		) Rs.60		18)	(d) Rs.24		
	1.0	(d) Rs.16800 A	20)		) Rs.24000 A	0	21)	(a) Rs.55		
	22)	(d) Rs.5	23)	1.1	) Rs.20000	12	24)	(a) Rs.7		
	25)	(d) Rs.25200	26)		) Rs.5200 F	12	27)		00 A	
<b>C</b> .1		the Manufacture Manufacture	Z			17	1			
		with Working Notes	and the second second	~		51				
Bas	ic date	a : Actual Production	(AP) &	Sai	es = 3600 units	51				
Wo	king	Note - 1		9		2/				
			D		T MATERIAL					
			[R:	s.15	5 x 3600 units]					
				-	SCAP Rs.54000	10				
			5	ΩŤ.		and a				
			THE R	offic 1		-ward				
					Cost	V = R <i>s</i> .	1115 A			
		Volume V	= Rs 75	A	Actu	al Cost				
		t channe t				5 115				



Rs.55,115

\* We find,

 Rs.55,115
 Actual Cost

 (-) 365
 Price V (A)

 54,750
 SC of AQ used

 (-) 750
 Usage V (A)

 54,000
 SCAP

(given)



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```
* Std Cost of V.OH per unit = Rs.20
[Std V.OH for AP / AP or Rs.72,000 / 3,600 units ]
```







Note : Sales Value V =	= Sales Price V + Sa	les Volume V	
Actual Sales Price = Rs.	52		
Actual Sales / Actual ur			
Rs.2,23,200 / 3,600 uni			
We find,			
* Rs.2,23,200	Actual Sales		
(-) 7,200			
2,16,000			
2,10,000	Sid Sales on AQ		
so, Std Sales Price = R	s.60		
Std Sales on AQ			
= Rs.2,16,000 / 3		An	
<u>Working Note - 6</u>			
The Original Budget for	February 2022		(
5 Rudgeted Salar		nit (Rs.)	For 4,000 units (Rs.) 2,40,000
5 Budgeted Sales 1 Direct Material	0	60 15	60,000
2 Direct Wages [2 Hr @		10	40,000
3 Variable OH [2 Hr @		20	80,000
4 Fixed OH		10	40,000
		55	2,20,000
Due Cit			
Profit	D	Rs.5	Rs.20,000

Working Note - 7

<u>SALES (MARGIN) METHOD</u> [Rs.7 x 3,600 units] Actual Margin Rs.,25,200

Sales Margin Value V = Rs.5,200 F Sales Margin Price V = Rs.7,200 F



Note : Sales Margin Value V = Sales Margin Price V + Sales Margin Volume V

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Notes : Sales Volume Variance (Rs.24,000 A) would not appear in the Profit Reconciliation statement which takes into account Sales Margin Volume V and Sales Margin Price V only.

\* Actual Margin per unit = Rs.7 Actual Sales Price - Std Cost per unit Rs.62 - Rs.55

\* Budgeted (Std) Profit per unit = Rs.5

[Budgeted (Std) sales price - Budgeted (Std) Cost per unit i.e. Rs.60 - Rs.55]

#### <u>Statement showing the reconciliation of Budgeted Profit and Actual Profit is drawn below</u> for understanding

W.N.	Budgeted Profit	(Amount in Rupee 20,000
7	Less : Sales Margin Volume V	(-) 2,000 A
	Standard Profit	18,000
7	Sales Margin Price V	7,200 F
	Actual Margin	25,200
	Cost Variances :	131
1	Direct Material	1,115 A
	Price V 365 A	
	Usage V 750 A	
2	Direct Wages	1,485 A
	Rate V 765 F	
	Efficiency V 2,250 A	9
3	Variable OH	675 A
	Expense V 3,825 F	
	Efficiency V 4,500 A	3 / </td
4	Fixed OH	5,500 A
	Expense V 1,500 A	
	Volume V 4,000 A	~~/
		8,775 A
	Actual Profit	Rs.16,425

#### Solution through diagrams

A diagrammatic solution is characterized by arrows having spearhead in one side. The basic principle is that the amount standing at the spearhead side should always be deducted from that of the bottom side of the same. The resulting balance, if positive, signifies a Favourable Variance whereas a negative balance invariably signifies an Adverse or Unfavourable Variance, automatically. The principle involved can be clearly understood with a simple illustration following:

- 1) Rs.52 Rs.48 = (+) Rs.4 =
- 2) Rs.52 Rs.61 = (-) Rs.9 =
- Rs.4 Favourable Variance, shown as Rs.4 (F) Rs.9 Adverse or Unfavourable Variance, shown as Rs.9 (A)

Some of the multiple advantages associated with the diagrammatic solution of Variance Analysis are noted hereunder :

1) Diagram works as a road map which leads one to reach destination in the easiest way.



- 2) Diagrams are simple, easy to understand and use.
- 3) Solution can be arrived at within the shortest possible time.
- 4) Nature of Variance (Favourable or Adverse) emerges automatically due to in-built system.
- 5) Inter-relationship of related Variances are clearly visible and understood.
- 6) Inconsistency in on-going computation is promptly detected for correction.
- 7) It is easier to memorize the diagrams than a bunch of confusion-raising formulae.

A sincere practice of Variance Analysis through diagrams over a couple of days is likely to pay a rich dividend.







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## GROUP: II, PAPER:11 INDIRECT TAXATION (ITX)

# **Your Preparation Quick Takes**





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#### Learning objectives:

- The concept of tax and the objective for its levy
- The concept of direct and indirect tax and the differences between the two
- The basic features of indirect taxes
- What are the principal indirect taxes
- As to how the indirect taxes are administered in the country



- 1. What is the time of supply of service where services are received from an associated enterprise located outside India?
  - a) Date of entry of services in the books of account of recipient of service
  - b) Date of payment
  - c) Earlier of (a) & (b)
  - d) Date of entry of services in the books of the supplier of service
- 2. Time of supply means:
  - a. The point in time when GST is actually paid by the supplier of goods or services
  - b. The point in time when GST is actually paid after taking input credit by the supplier of goods or services
  - c. The point in time when goods have been deemed to be supplied or services have been deemed to be provided
  - d. The point in time when GST return is filed by the supplier of goods or services
- 3. What is the time of supply of services where the supplier is liable to pay tax under forward charge and the invoice is not issued within prescribed period under section 31(2)?
  - a. Date of issue of invoice
  - b. Date of completion of provision of services
  - c. Date of receipt of payment
  - d. Date of completion of provision of service or date of receipt of payment; whichever is earlier.

#### 4. What is the time of supply of import of service?

- a. Date of entry of services in the books of account of recipient of service
- b. Date of payment
- c. 61st day from the date of invoice
- d. Earlier of (a) & (b)
- e. Earlier of (b) & (c)
- 5. Which of the following shall not be included in value of supply?
  - a) GST
  - b) Interest
  - c) Late fee
  - d) Commission
- 6. The value of supply should include:
  - a) Any non-GST taxes, duties, cesses, fees charged separately by supplier
  - b) Interest, late fee or penalty for delayed payment of any consideration for any supply
  - c) Subsidies directly linked to the price except subsidies provided by the Central and State Governments
  - d) All of the above
- 7. Value of supply under section 15(1) is:
  - a) Wholesale price
  - b) Market value
  - c) Maximum retail price
  - d) Transaction value
- 8. Which of the following forms part of transaction value?
  - 1) GST compensation cess
  - 2) Payments made to third parties by the recipient on behalf of the supplier in relation to the supply
  - 3) Entertainment tax levied by local authority
  - 4) Commission paid to an agent and recovered from the recipient
  - 5) Inspection charges at recipient's site
  - 6) Charges for delay in payment waived off by supplier
  - State the correct answer from the options given below
  - a. 1, 2, 3, 4 & 5

- b. 2, 3, 4, 5 & 6
- c. 2, 3, 4 & 5
- d. All of the above
- 9. When can the transaction value be rejected for computation of value of supply
  - (a) When the buyer and seller are related and price is not the sole consideration
  - (b) When the buyer and seller are related or price is not the sole consideration
  - (c) It can never be rejected
  - (d) When the goods are sold at very low margins

#### 10. What deductions are allowed from the transaction value

- (a) Discounts offered to customers, subject to conditions
- (b) Packing Charges, subject to conditions
- (c) Amount paid by customer on behalf of the supplier, subject to conditions
- (d) Freight charges incurred by the supplier for CIF terms of supply, subject to conditions

11. Rule 30 of the CGST Rules inter alia provides value of supply of goods or services or both based on cost shall be .....% of cost of production or manufacture or the cost of acquisition of such goods or the cost of provision of such services

- (a) 100
- (b) 10
- (c) 110
- (d) 120
- 12. Aggregate turnover includes:
- a) Taxable supplies of goods or service or both
- b) Exempt supplies of goods
- c) Exports
- d) All of the above

13. Which of the following persons are not liable for registration?

- a) Any person engaged exclusively in supplying services wholly exempt from tax
- b) Casual Taxable Person
- c) Both (a) and (b)
- d) None of the above

#### 14. Within how many days a person should apply for registration?

- a. Within 60 days from the date he becomes liable for registration.
- b. Within 30 days from the date he becomes liable for registration.
- c. No Time Limit
- d. Within 90 days from the date he becomes liable for registration.

15. A person having \_ \_business verticals in a State obtain a separate registration for each business vertical.

a. Single, shall

- b. Multiple, shall
- c. Multiple, may
- d. Single, may

16. What is the validity of the registration certificate?

- a. One year
- b. No validity
- c. Valid till it is cancelled.
- d. Five years.

17. The registration certificate granted to Non-resident taxable person is valid for days trom the ettective date ot registration.

a. 30 b. 60

- c. 90
- d. 120

18. If an entity has multiple branches within the same state, it requires: a) Registration for each branch separately b) Single registration for all the branches

c) Multiple registration or single registration at the option of the Assessee

d) Registration for each branch separately if the turnover of each branch exceeds INR 20 Lakhs

19. Which of the following persons are not liable for registration? a) Any person engaged exclusively in supplying goods or services wholly exempt from tax b) Causal taxable person c) Non-resident taxable person



d) None of the above

20. An agriculturist is not required to take registration if he supplies

- a) Any agricultural produce
- b) Any agricultural produce grown by him or other agriculturalist
- c) Agricultural produce out of cultivation of land
- d) All the above.







## GROUP: II, PAPER:12 COMPANY

ACCOUNTS & AUDIT (CAA)

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# **Your Preparation Quick Takes**



#### Syllabus Structure

A Accounts of Joint Stock Companies 50%B Auditing 50%

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#### Learning Objectives:

- Apply appropriate judgment derived from knowledge of accounting theory, to financial analysis and decision making
- Effectively define the needs of the various users of accounting data and demonstrate the ability to communicate such data effectively, as well as the ability to provide knowledgeable recommendations.
- Prepare financial statements in accordance with Generally Accepted Accounting Principles.
- Demonstrate an understanding of current auditing standards and acceptable practices, as well as the impact of audit risk on the engagement.

#### <u>Company Accounts & Audit</u>

#### 1. State the information required to get claim for loss of stock against the insurance company.

Ans:-The following information is required in order to prepare a claim for loss of stock against the insurance company:- i) Value of closing stock, ii) Amount of current purchases up to the date of fire, iii) Amount of sales for the same period, iv) Average rate of gross profit earned in the last years, v) salvage value of stock.

The estimated value of stock destroyed by fire can be ascertained ,it depends upon the other factors - a) whether the same method of valuation of stock is followed or not, b)Exact term of policy , c) any other factors which the past gross profit .

#### 2. How do you find out computation of claim for loss of stock.

Ans:-Ascertainment of claim against any fixed assets is quite simple but ascertainment of claim against stock at the date of fire is not a simple.

There are different methods for stock valuation and the value of stock, exact amount of stock which was lost by fire cannot be ascertained correctly. However it involves two following steps:-

- a) Computation of value of stock at the date of fire
- b) Computation of actual claim to be lodged.

a)Computation of value of stock at the date of fire :-At first to prepare Estimated Trading Accounts, in case of gross profit is not given , gross profit will be same as previous.

Particulars	Amount	Particulars	Amount
To opening balance To Purchase To expenses To gross profit	NIJ	By sales By closing stock	- IND

#### Memorandum of trading A/C

**b)Computation of actual claim to be lodged**:-Value of stock at the date of cannot be claim, if there is any salvage value of stock, the same should be deducted

Amount of claim for loss of stock

<u>Value of closing at the date of fire stock</u> Less-stock/goods salvaged XXXX XXXX

Amount of Claim

XXXX

A fire occurred at the premises of atrader on May 31, 2021, destroying a greatpart of his stock. On Jan 1, 2021 appeared in the books at Rs.60,000. The value of stock salvaged was Rs.13,500. The gross profit on sales was 30% and sales amounted to Rs. 1,53,000 from Jan to date of fire, while for the same period the purchase amounted to Rs. 1,03,500. Prepare a statement of claim for submission to the insurance company. Solution:-

In the books of .....



Memorandum of Trading A/c for the period Jan,1 to May 31 2021

Particulars	Amount(Rs)	Particulars	Amount(Rs)
To opening stock To purchase To profit & loss A/c	60,000 1,03,000 45,900		1,53,000 56,400
	<u>2,09,400</u>		<u>2,09,400</u>

Amount of claim:- Value of stock- Salvage value

- = (56,400-13,500)
- = Rs.42,900/-
- 1. The premises of a trading firm caught fire on 31<sup>st</sup> October 2019 and the stock was damaged . The firm had made up accounts to 31<sup>st</sup> Dec. each year and on 31<sup>st</sup> 2018 the stock at cost was Rs.13,000 as against Rs. 9,000 on 31<sup>st</sup> Dec 2017

Purchase from1st Jan 2019 to the date of fire were Rs.35,000 as against Rs. 52,750 for the full year 2018 and the corresponding sales figure were Rs.49,000 and 65,000 respectively. Given the following further information:

- i) In april 2019, goods which cost Rs. 1000 were given way for advertisement purposes , no entries being made in the books.
- ii) During 2019, a clerk had misappropriated unrecorded cash sales. it is estimate that the defalcation average Rs.20 per week from 1<sup>st</sup> Jan 2019 until the clerk was dismissed on 21st may 2019
- iii) The rate of gross profit is constant.

Solution:

In the books of .....

Memorandum of Trading A/c for the period Jan,1,2019 to Oct , $31^{st}$ , 2019

particulars	Amount(Rs)	particulars	Amount(Rs
To opening stock To purchase 35,000 Less-advertisement 1,000	13,000	By sales By cash sales(stolen) By closing stock(b/f)	49,000 400 9850
F	34,000	0	
To profit & loss A/c Gross profit(25% on sales)	12,500		
\ 	<u>59,250</u>		<u>59,250</u>

#### 5. What is Average clause ?

Ans- Fire insurance is acontract of indemnity .As a result the owner of goods/stock cannot claim than the almost of actual loss sustained by fire .Under the circumstances , if the goods are insured at a price which is either equal or more than the actual amount , the insurance company are liable to pay to the owner actual amount of losses. In order to maintain the interest of the insurance company from under -insurance ,a condition is imposed is knows as Average clause in the fire insurance policy .

#### Amount of policy

Amount of claim = Actual loss X Value of stock at the date of fire

Ram took out a fire policy containing on Average clause covering his stock for Rs. 30,000. His practice was to fix his selling price at cost plus 33.33%. He closes his books of 30<sup>th</sup> June every year. On 31.3.2008 a fire occurred at his premises and destroyed his stock. The salvaged stock was worth Rs.12,000. During the period of 9<sup>th</sup> month preceding the fire his purchase amount to Rs.1,22,000 and sales Rs. 1,68,000. His stock at 1,7,2007 was valued at Rs. 40,000. Required to prepare a statement. Solution:

In the books of Ram

Memorandum Trading A/c for the period from 1<sup>st</sup> july 2007 to 31<sup>st</sup> march 2008



Particulars	Amount	Particulars	Amount
To opening stock	40,000	By sales	1,68,000
Topurchase	1,22,000	By closing stock(b/f)	36,000
To Profit & loss A/c	42,000		
(25% on sale) {i,e 33.33% on cost}			
	<u>2,04,000</u>		<u>2,04,000</u>
Amount claim			
Value of stock	36,000		
Less-salvage	<u>12,000</u>		
Actual loss of stock	24,000		

Average clause=loss of stock X <u>p</u>

<u>policy value</u>

#### Value of stock at the date of fire

=24,000 X <u>30,000</u>

36,000

=20,000













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Dear Students,

We are very much delighted to receive responses from all of you; for whom our effort is!

We have noted your queries and your requests will definitely be carried out. Further, requesting you to go through the current edition of the bulletin. All the areas will be covered gradually. Expecting your responses further to serve you better as we believe that there is no end of excellence! One of the mails received is acknowledged below.

Please put your opinions so that we can make your e-bulletin everything that you want it to be.

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#### Vol: 7, No.: 3. March 2022, Issue





### Message from Directorate of Studies

Dear Students,

Heartfelt wishes to you for passing the exam!! All who passed out have been sincere and diligent since day one and never failed to amaze us with your dedication. You've proved that dedication and learning end at resulting in excellent outcomes. Best wishes for achieving the best place. So proud to call you our student! Congratulations and best wishes for your life. May your future be filled with many great achievements like this.

Those who could not pass out please be steady and we believe, everyone has intellect and presence of mind. But only a few students who can deliver the right thing at right time and with right courage become the winner in the examination. So, please try to deliver your best in your next examination.

We from the Directorate of studies know your expectations from us and accordingly we are trying to deliver some meaningful tips through the publications of monthly E-bulletins. If you sincerely follow those tips, we hope, you will be successful in your endeavor.

To celebrate **75 years of independence and commemorate** it as India is celebrating, 'Azadi Ka Amrut Mahotsav', across the country and amid the coronavirus pandemic and also organizing various events. India's freedom fighters fought a long and hard struggle for the country's independence from the British and, for years, their words have inspired us. We hope that our students will also participate and pay their homage to the freedom fighters.

#### Certain general guidelines are listed below and which will help you in preparing yourselves:

- Conceptual understanding & Overall understanding of the subject should be clear.
- Candidates are advised to go through the study material provided by the Institute in an analytical manner.
- Students should improve basic understanding of the subject with focus on core concepts.
- The Candidates are expected to give to the point answer, which is a basic pre-requisite for any professional examination.
- To strengthen the answers candidates are advised to give answer precisely and in a structured manner.
- In-depth knowledge about specific terms is required.
- Write question numbers correctly and prominently.
- Proper time management is also important while answering.

#### Please refer the link mentioned below :

https://icmai.in/studentswebsite

- Don't give up
- Don't give in
   Don't give out
- You can win!

The Institute is pleased to inform that the University Grants Commission (UGC) Ministry of Education, Govt. of India has announced that CMA qualification be Considered equivalent to PG Degree.

#### GOOD LUCK

Be Prepared and Get Success;

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# Few Snapshots



CMA P. Raju Iyer, President, CMA Vijender Sharma, Vice President, CMA B.B. Goyal, Adviser, ICMAI MARF and CMA Kaushik Banerjee, Secretary of the Institute during a meeting with Mr. Hussain Niyazy, Auditor General of Maldives and other delegates from ICA Maldives on 9th March, 2022 at CMA Bhawan, New Delhi.



Glimpses of Seminar organised by IAASB jointly with Chandigarh-Panchkula-Mohali Chapter of the Institute on 5th March, 2022 at Chandigarh.



CMA P. Raju Iyer, President along with CMA Vijender Sharma, Vice President of the Institute, CMA B.B. Goyal, Former Addl. Chief Advisor (Cost), Ministry of Finance, Govt. of India called on Shri Ravi Shankar Prasad, Hon'ble Member of Parliament (Lok Sabha) & Member, Parliamentary Standing Committee on Finance on 4th March, 2022 at New Delhi.





International Women's Day celebration at CMA Bhawan, New Delhi on 8 March, 2022 CMA P Raju Iyer, President and CMA Vijender Sharma, Vice President of the Institute receiving the 'ET Inspiring Leaders East 2022' Award Certificate of Excellence under the category 'Prime Professional Accountancy Body in India' on 6th March, 2022 at Kolkata

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