Paper 19 – Cost and Management Audit

SECTION - A

Question 1:

(i) What is the effective date from which cost records is to be maintained by companies covered under rule 3 of Companies (Cost Records and Audit) Rules, 2014?

Answer:

Every company under these rules including all units and branches thereof, shall, in respect of each of its financial year commencing on or after the 1st day of April, 2014, maintain cost records in form CRA-1.

Provided that in case of company covered in serial number 12 and serial numbers 24 to 32 of item (B) of rule 3, the requirement under this rule shall apply in respect of each of its financial year commencing on or after 1st day of April, 2015.

(ii) TUR Ltd. has two divisions. Division – I is involved in manufacturing of Railway and tramway locomotives & Division – II is involved in providing after sale service to their customer. His Aggregate annual turnover from manufacturing division is ₹ 70 crores and annual receipts from service division is ₹ 35 crores. State whether Companies (Cost Records and Audit) Rules, 2014 is applicable to the company?

Answer:

As per Rule 3 of Companies (Cost Records and Audit) Rules, 2014, the class of companies including foreign companies, engaged in the production of the goods or providing services, specified in the Table, having an overall turnover from all its products and services of ₹ 35 crore or more during the immediately preceding financial year, shall maintain cost records for such products or services in their books of account.

In the given case, the product is covered under item (B) as non-regulated sector of rule 3. The overall turnover of the company is ₹ 105 crores. Hence the company is required to maintained cost records under Rule 3 and also the aggregate turnover of the individual product "Railway and Tramway Locomotives" manufacturing by the company is not less than ₹ 35 crore. Hence, the company is also required to conduct cost audit.

(iii) King Pvt. Ltd is the manufacturer of Drugs and Pharmaceuticals products falling under CETA Heading No. 2901 to 2942. The turnover of the company for the financial year ended 2013-14 & 2014-15 was ₹ 60 crores & ₹ 90 crores and one of the product as per CETA Heading no. 2907 whose individual turnover is ₹ 30 crores. As a Cost Accountant, please suggest the applicability of Companies (Cost Records and Audit) Rules, 2014 for the financial year 2013-14.

Answer:

As per rule 3 of the Companies (Cost Records and Audit) Rules, 2014, regulated and non-regulated sectors of companies are required to maintain the cost records of the company including foreign companies defined in clause (42) of section 2 of the Act engaged in the production of the goods or providing services having an overall turnover from all its products and services of ₹ 35 crore or more during the immediately preceding financial year, shall include cost records for such products or services in their books of account.

For applicability of Cost Audit to the companies, rule 4 of Companies (Cost Records and Audit) Rules, 2014, provides that *every company specified under regulated sectors of rule 3, shall get its cost records audited in accordance with these rules if the overall annual turnover of the company from all its products and services during the immediately preceding financial year is ₹50 crore or more and the aggregate turnover of the individual product or products or service or services for which cost records are required to be maintained under rule 3 is ₹25 crore or more*.

Therefore as per the provision of rule 3 and rule 4, King Pvt. Ltd should maintain cost records and required to conduct cost audit for the financial year 2013-14.

Question 2:

(i) Whether the Companies (Cost Records and Audit) Rules, 2014 is applicable to a company which is classified as a micro enterprise or a small enterprise including as per the turnover criteria under section 7(9) of the Micro, Small and Medium Enterprises Development Act, 2006?

Answer:

The Companies (Cost Records and Audit) Rules, 2014 is not applicable to a company which is classified as a micro enterprise or a small enterprise including as per the turnover criteria under section 7(9) of the Micro, Small and Medium Enterprises Development Act, 2006.

(ii) Whether Companies (Cost Records and Audit) Rules, 2014 is applicable to a company which is generating electricity for captive use?

Answer:

The Companies (Cost Records and Audit) Rules, 2014 is applicable to a company which is engaged in *generation, transmission, distribution and supply of electricity regulated by the relevant regulatory body or authority under the Electricity Act, 2003 (36 of 2003), other than for captive generation.*

(iii) TWR Ltd, listed company, falling under non-regulated sectors as per rule 3 of Companies (Cost Records and Audit) Rules, 2014, whose overall turnover in the immediately preceding financial year is ₹ 30 crore. Whether the company is required to maintain Cost records as per

section 148(1) of the Companies Act, 2013. If yes, whether the company has also required to do cost audit of his accounts?

Answer:

For the purposes of sub-section (1) of section 148 of the Act, the class of companies, including foreign companies engaged in the production of the goods or providing services, specified in the Table of rule 3, having an overall turnover from all its products and services of ₹ 35 crore or more during the immediately preceding financial year, shall maintain cost records for such products or services in their books of account.

The requirement to maintaining the Cost Records is based on overall turnover of the company. It is immaterial whether the company is listed or not. Hence, the TWR Ltd. is not required to maintain the cost audit records because the overall turnover of the company is less than ₹ 35 crore.

Question 3:

(i) Whether all petroleum products are covered under Companies (Cost Records and Audit) Rules, 2014?

Answer:

Yes. The Companies (Cost Records and Audit) Rules, 2014 is applicable to all *Petroleum products regulated by the Petroleum and Natural Gas Regulatory Board under the Petroleum and Natural Gas Regulatory Board Act, 2006 (19 of 2006) and covered under* CETA Heading no. 2709 to 2715.

(ii) XYZ Ltd is a manufacturer of Steel since 1st December, 2012. The aggregate turnover of the product during the immediately preceding financial year is ₹ 30 crore. During the current financial year 2014-15 his turnover is ₹ 120 crore. You as a Cost Accountant, suggest whether any Cost Records is required to be maintained by XYZ Ltd for the financial year 2014-15?

Answer:

Rule 3 of the Companies (Cost Records and Audit) Rules, 2014 is applicable to the class of companies, including foreign companies defined in clause (42) of section 2 of the Act, engaged in the production of the goods or providing services, as specified in the Table (regulatory or Non-regulatory Sectors) of Rule 3, having an overall turnover from all its products and services of ₹ 35 crore or more during the immediately preceding financial year, shall include cost records for such products or services in their books of account.

XYZ Ltd is a manufacturer of steel, which is covered under item of non-regulatory sector of rule 3 and aggregate turnover during the immediately preceding financial year is less than ₹ 35 crore. Hence XYZ Ltd is not liable to maintain cost records during the financial year 2014-15.

However, XYZ Ltd. is required to maintain Cost Records and gets his accounts audited for the financial year 2015-16 as per rule 3 & 4 of the Companies (Cost Records and Audit) Rules, 2014.

(iii) XYZ Ltd is a manufacturing company, on which Rule 3 of Companies (Cost Records and Audit) Rules, 2014 is applicable. But he is not liable to do Cost Audit of the company. Whether the company is liable to file compliance report to the Central Government?

Answer:

As per newly incorporated Companies (Cost Records and Audit) Rules, 2014, the concept of Compliance report is no more exist. So the companies which are required to maintain cost records but whose account is not liable to conduct cost audit under rule 4, then the company is not required to appoint any cost auditor for any report except as directed/ordered by Central Government under section 148(2) of the Companies Act, 2013.

Question 4:

(i) What does turnover mean under these Rules?

Answer:

The definition of 'Turnover' neither has been defined in this rule nor it has been defined in Companies (Specification of definitions details) Rules, 2014. Although the term Turnover has been defined in section 2(90) of the Companies Act, 2013.

As per section 2(90) of Companies Act, 2013, "Turnover" means the aggregate value of the realisation of amount made from the sale, supply or distribution of goods or on account of services rendered, or both, by the company during a financial year.

(ii) Who is the authorised authority for issue of Companies (Cost Records and Audit) Rules, 2014?

Answer:

Central Government, in exercise of the power conferred by sub-sections (1) and (2) of section 469 and section 148 of the Companies Act, 2013 and in supersession of Companies (Cost Accounting Records) Rules, 2011; Companies (Cost Audit Report) Rules, 2011; Cost Accounting Records (Telecommunication Industry) Rules, 2011; Cost Accounting Records (Petroleum Industry) Rules, 2011; Cost Accounting Records (Electricity Industry) Rules, 2011; Cost Accounting Records (Sugar Industry) Rules, 2011; Cost Accounting Records (Fertilizer Industry) Rules, 2011 and Cost Accounting Records (Pharmaceutical Industry) Rules, 2011, except as respects things done or omitted to be done before such supersession, has issued these rules.

(iii) Who can be appointed as a "Cost Auditor" of a Company?

Answer:

"Cost Auditor" means an auditor appointed to conduct an audit of cost records, under sub-section (2) of section 148 of the act and shall be a cost accountant within the meaning of the Cost and Works Accountants Act, 1959. "Cost Accountant" for the purpose of these rules means a cost accountant as defined in clause (b) of sub-section (1) of section 2 of the Cost and Works Accountants Act, 1959 (23 of 1959) and who holds a valid certificate of practice under sub-section (1) of section 6 and who is deemed to be in practice under sub-section (2) of section 2 of that Act and includes a firm of cost accountants.

Question 5:

(i) Can a Cost Accountant in employment be a Cost Auditor?

Answer:

No person in employment can be appointed as a cost auditor.

(ii) What is the applicability of the Companies (Cost Records and Audit) Rules, 2014 to different types of Companies?

Answer:

The Companies (Cost Records and Audit) Rules, 2014 is applicable to all class of companies including foreign companies which is illustrated in tabulate form in rule 3 as divided regulated and non-regulated sectors in respect of which the Central Government may, by order, direct for maintenance of cost records under section 148(1) or audit of cost records under section 148(2).

(iii) What is the time limit within which the Cost Auditor of the company should submit his Report?

Answer:

As per Rule 6(5), every cost auditor shall forward his report to the Board of Directors of the company within a period of one hundred and eighty days from the closure of the financial year to which the report relates.

Question 6:

(i) What is the time limit within which a company shall furnished the Cost Audit Report to the Central Government?

Answer:

As per Rule 6(6), every company covered under these rules shall, within a period of thirty days from the date of receipt of a copy of the cost audit report, furnish the Central Government with such report alongwith full information and explanation on every reservation or qualification contained therein, in **Form CRA-4** alongwith fees specified in the Companies (Registration Offices and Fees) Rules, 2014.

(ii) What is the difference between Cost accounting policy and Cost Accounting system?

Answer:

Cost Accounting Policy of a company should state the policy adopted by the company for treatment of individual cost components in cost determination.

The Cost Accounting system of a company, on the other hand, would provide a flow of the cost accounting data/information across the activity flow culminating in arriving at the cost of final product/activity.

(iii) A Tyre and Tube manufacturing company is having turnover of ₹ 80 crores from all its activities. The company has filed its prospectus with SEBI for a public issue of equity shares and it hopes to complete the public offering by September 2014 end. Whether cost audit will become applicable to the company? If yes, then from which financial year will cost audit become applicable?

Answer:

As per the newly enacted Companies (Cost Records and Audit) Rules, 2014, Cost Audit is applicable to the non-regulated sectors if overall annual turnover of the company from all its products and services during the immediately preceding financial year is ₹ 100 crore or more and the aggregate turnover of the individual product or products or service or services for which cost records are required to be maintained under rule 3 is ₹ 35 crore or more.

Conclusion:

(i) In this case, the company is not satisfied the first criteria of Rule 4 i.e. *overall annual turnover of the company from all its products and services during the immediately preceding financial year is ₹ 100 crore or more. Hence, the company is not required to gets its cost records Audited.*

(ii) The company is in the process of listing on a stock exchange in India which will nowhere affect the applicability of the Companies (Cost Records and Audit) Rules, 2014. *Hence, the company is not required to gets its cost records Audited.*

Question 7:

(i) ERS Ltd manufacturer of Rubber, Coffee & Tea is having turnover of ₹ 100 crore from all activities during the preceding financial year. All the three products are falling under the CETA heading as mentioned in rule 3 of Companies (Cost Records and Audit) Rules, 2014. The turnover of all the three products is equal. State whether the company is liable to do Cost Audit or not?

Answer:

The company is required to maintained cost records as per rule 3 of Companies (Cost Records and Audit) Rules, 2014. But the company is not liable to do cost audit because as per rule 4, both the condition need to be satisfied for applicability of cost audit. Firstly, the *overall annual turnover of the company from all its products and services during the immediately preceding financial year is ₹100 crore or more and secondly, the aggregate turnover of the individual product or products or service or services for which cost records are required to be maintained under rule 3 is ₹35 crore or more.*

(ii) ERR Ltd manufacturer of Rubber, Coffee & Tea is having turnover of ₹ 100 crore from all activities during the preceding financial year. All the three products are falling under the CETA heading as mentioned in rule 3 of Companies (Cost Records and Audit) Rules, 2014. The turnover of all the three products is ₹ 60 crore, ₹ 20 crore & ₹ 20 crore respectively. State whether the company is liable to do Cost Audit or not?

Answer:

Every company specified in item (B) of rule 3 shall get its cost records audited in accordance with rule 4 if the overall annual turnover of the company from all its products and services during the immediately preceding financial year is ₹ 100 crore or more and the aggregate turnover of the individual product or products or service or services for which cost records are required to be maintained under rule 3 is ₹ 35 crore or more.

In this case, the first condition of overall annual turnover of ₹100 crore is satisfied, but in case of second condition only Rubber's aggregate turnover was ₹35 crore or more. So the Cost Audit is required for Rubber product only.

(iii) Explain the procedure for appointment of a Cost Auditor of the Company?

Answer:

The Board of Directors of the companies as specified in rule 3 and the thresholds limits laid down in rule 4, shall within 180 days of the commencement of every financial year, appoint a cost auditor. **[Rule 6(1)]**

Every company referred to in rule 6(1) shall inform the cost auditor concerned of his or its appointment as such and file a notice of such appointment with the Central Government within a period of thirty days of the Board meeting in which such appointment is made or

within a period of 180 days of the commencement of the financial year, whichever is earlier, through electronic mode, in **Form CRA-2**, alongwith the fee as specified in Companies (Registration Offices and Fees) Rules, 2014. **[Rule 6(2)]**

*Any casual vacancy in the office of a cost auditor, whether due to resignation, death or removal, shall be filled by the Board of Directors within thirty days of occurrence of such vacancy and the company shall inform the Central Government in **Form CRA-2** within thirty days of such appointment of cost auditor.*

Question 8:

(i) Explain the tenure of a Cost Auditor of the Company?

Answer:

Every cost auditor appointed as per rule 6(1) & (2) shall continue in such capacity till the expiry of 180 days from the closure of the financial year or till he submits the cost audit report, for the financial year for which he has been appointed.

(ii) What is the significance of different forms in Companies (Cost Records and Audit) Rules, 2014?

Answer:

Significance of different Forms –

CRA – 1 : Maintain Cost Records in Form CRA – 1.

Every company under rule 5 including all units and branches thereof, shall, in respect of each of its financial year commencing on or after the 1st day of April, 2014, maintain cost records in **Form CRA-1**.

CRA – 2 : Form of intimation of appointment of Cost Auditor by the Company to Central Government.

Every company referred to in rule 6(1) shall inform the cost auditor concerned of his or its appointment as such and file a notice of such appointment with the Central Government within a period of thirty days of the Board meeting in which such appointment is made or within a period of one hundred and eighty days of the commencement of the financial year, whichever is earlier, through electronic mode, in **Form CRA-2**, alongwith the fee as specified in Companies (Registration Offices and Fees) Rules, 2014.

CRA – 3 : Form of the Cost Audit Report.

Every cost auditor, who conducts an audit of the cost records of a company, shall submit the cost audit report along with his or its reservations or qualifications or observations or suggestions, if any, in **Form CRA-3**.

CRA – 4 : Form for filing Cost Audit Report with the Central Government.

Every company covered under rule 6 shall, within a period of thirty days from the date of receipt of a copy of the cost audit report, furnish the Central Government with such report alongwith full information and explanation on every reservation or qualification contained therein, in **Form CRA-4** alongwith fees specified in the Companies (Registration Offices and Fees) Rules, 2014.

(iii) A company has running its business since 2000 and it required to get its cost records audited first time in 2014-15. Whether it is mandatory to indicate previous year figure while submitting the report?

Answer:

A company coming under the purview of the Cost Audit for the first time, the auditor shall mention figures for the previous year(s) certifying by means of a note that the figure so stated are on the basis of information furnished by the management, for which he has obtained a certificate from them.

Question 9:

(i) A company with multiple product range is having cost audit for some of its products. What would be the applicability of cost audit on other products not covered under Companies (Cost Records and Audit) Rules, 2014?

Answer:

As per rule 4 read with rule 3 of the Companies (Cost Records and Audit) Rules, 2014, cost audit is only applicable to goods specified in List (A) & (B) i.e. cost audit is applicable to products covered under regulatory and non-regulatory sector mentioned in rule 3.

(ii) A company is the manufacturer of five products namely A, B, C, D & E with the turnover of ₹60 crores. Out of these five products, product D & E are cover under rule 3 of the Companies (Cost Records and Audit) Rules, 2014. State whether Cost Records should also be required to maintain for product A, B & C?

Answer:

As per rule 3, the cost records shall be maintained by the company whose overall turnover from all its products and service of ₹ 35 crores or more and only for those products which are listed in table of rule 3. So, the company should not required to maintained cost records for products A, B & C.

(iii) Whether a cost auditor can be appointed as Internal Auditor of the company? Whether there is any restriction on the cost auditor to accept assignments from a company where he is the Cost Auditor?

Answer:

A cost auditor cannot render any services to the company whether acting individually, or through the same firm or through other group firms where he or any partner has any common interest, relating to:

(i) design and implementation of cost accounting system; or

(ii) the maintenance of cost accounting records; or

(iii) act as internal auditor.

However, a cost auditor can provide any other services as may be assigned by the company, excluding the services mentioned above.

Question 10:

(i) What are the qualifications and disqualification of a Cost Auditor?

Answer:

As per section 141(3), qualifications and disqualifications of Auditors are -

The following persons shall not be eligible for appointment as an auditor of a company, namely:—

(a) a body corporate other than a limited liability partnership registered under the Limited Liability Partnership Act, 2008;

(b) an officer or employee of the company;

(c) a person who is a partner, or who is in the employment, of an officer or employee of the company;

(d) a person who, or his relative or partner—

  (i) is holding any security of or interest in the company or its subsidiary, or of its holding or associate company or a subsidiary of such holding company.

  Provided that the relative may hold security or interest in the company of face value not exceeding one thousand rupees or such sum as may be prescribed;

  (ii) is indebted to the company, or its subsidiary, or its holding or associate company or a subsidiary of such holding company, in excess of such amount as may be prescribed; or

  (iii) has given a guarantee or provided any security in connection with the indebtedness of any third person to the company, or its subsidiary, or its holding or associate company or a subsidiary of such holding company, for such amount as may be prescribed;

(e) a person or a firm who, whether directly or indirectly, has business relationship with the company, or its subsidiary, or its holding or associate company or subsidiary of such holding company or associate company of such nature as may be prescribed;

(f) a person whose relative is a director or is in the employment of the company as a director or key managerial personnel;

(g) a person who is in full time employment elsewhere or a person or a partner of a firm holding appointment as its auditor, if such persons or partner is at the date of such appointment or reappointment holding appointment as auditor of more than twenty companies;

(h) a person who has been convicted by a court of an offence involving fraud and a period of ten years has not elapsed from the date of such conviction;

(i) any person whose subsidiary or associate company or any other form of entity, is engaged as on the date of appointment in consulting and specialised services as provided in section 144.

Where a person appointed as an auditor of a company incurs any of the disqualifications mentioned in sub-section (3) after his appointment, he shall vacate his office as such auditor and such vacation shall be deemed to be a casual vacancy in the office of the auditor.

(ii) What are the duty liabilities of a Cost Auditor of an Company relating to reporting of frauds identified during audit?

Answer:

Reporting of fraud by Cost Auditor –

(1) For the purpose of sub-section (12) of section 143, in case the auditor has sufficient reason to believe that an offence involving fraud, is being or has been committed against the company by officers or employees of the company, he shall report the matter to the Central Government immediately but not later than sixty days of his knowledge and after following the procedure indicated herein below:

(i) auditor shall forward his report to the Board or the Audit Committee, as the case may be, immediately after he comes to knowledge of the fraud, seeking their reply or observations within forty-five days;

(ii) on receipt of such reply or observations the auditor shall forward his report and the reply or observations of the Board or the Audit Committee along with his comments (on such reply or observations of the Board or the Audit Committee) to the Central Government within fifteen days of receipt of such reply or observations;

(iii) in case the auditor fails to get any reply or observations from the Board or the Audit Committee within the stipulated period of forty-five days, he shall forward his report to the Central Government along with a note containing the details of his report that was earlier forwarded to the Board or the Audit Committee for which he failed to receive any reply or observations within the stipulated time.

(2) The report shall be sent to the Secretary, Ministry of Corporate Affairs in a sealed cover by Registered Post with Acknowledgement Due or by Speed post followed by an e-mail in confirmation of the same.

(3) The report shall be on the letter-head of the auditor containing postal address, e-mail address and contact number and be signed by the auditor with his seal and shall indicate his Membership Number.

(4) The report shall be in the form of a statement as specified in Form ADT-4.

(iii) Who is the approving authority of the company to fix the remuneration of the Cost Auditor?

Answer:

Remuneration of the Cost Auditor –

For the purpose of sub-section (3) of section 148,—

(a) in the case of companies which are required to constitute an audit committee—

- **(i)** the Board shall appoint an individual, who is a cost accountant in practice, or a firm of cost accountants in practice, as cost auditor on the recommendations of the Audit committee, which shall also recommend remuneration for such cost auditor;
- **(ii)** the remuneration recommended by the Audit Committee under (i) shall be considered and approved by the Board of Directors and ratified subsequently by the shareholders;

(b) in the case of other companies which are not required to constitute an audit committee, the Board shall appoint an individual who is a cost accountant in practice or a firm of cost accountants in practice as cost auditor and the remuneration of such cost auditor shall be ratified by shareholders subsequently.

Question 11:

(i) List out the annexure required to be attached along with Form CRA – 3 by the cost auditors.

Answer:

List of the annexure need to be furnished along with Form CRA – 3 :

Annexure has been reclassified into four parts as under:

Part - A

General Information,

General Details of Cost Auditors

Cost Accounting Policy

Product/Service Details –for the company as a whole

Part-B For Manufacturing Sector

Quantitative Information

Abridged Cost Statement

Details of Materials Consumed

Details of Utilities Consumed

Details of Industry Specific Operating Expenses

Part-C For Service Sector

Quantitative Information

Abridged Cost Statement

Details of Materials Consumed

Details of Utilities Consumed

Details of Industry Specific Operating Expenses

Part-D

Product and Service Profitability Statement

Profit Reconciliation

Value Addition and Distribution of Earnings

Financial Position and Ratio Analysis

Related Party Transactions

Reconciliation of Indirect taxes

(ii) What are the other services that a Cost Auditor of the company can provide to the company in which he is appointed as Cost Auditor?

Answer:

An auditor appointed under this Act shall provide to the company only such other services as are approved by the Board of Directors or the audit committee, as the case maybe, but which shall not include any of the following services (whether such services are rendered directly or indirectly to the company or its holding company or subsidiary company, namely:—

(a) accounting and book keeping services;

(b) internal audit;

(c) design and implementation of any financial information system;

(d) actuarial services;

(e) investment advisory services;

(f) investment banking services;

(g) rendering of outsourced financial services;

(h) management services; and

(i) any other kind of services as may be prescribed.

Provided that an auditor or audit firm who or which has been performing any non-audit services on or before the commencement of this Act shall comply with the provisions of this section before the closure of the first financial year after the date of such commencement.

Explanation.— For the purposes of this sub-section, the term "directly or indirectly" shall include rendering of services by the auditor,—

(i) in case of auditor being an individual, either himself or through his relative or any other person connected or associated with such individual or through any other entity, whatsoever, in which such individual has significant influence or control, or whose name or trade mark or brand is used by such individual;

(ii) in case of auditor being a firm, either itself or through any of its partners or through its parent, subsidiary or associate entity or through any other entity, whatsoever, in which the firm or any partner of the firm has significant influence or control, or whose name or trade mark or brand is used by the firm or any of its partners.

(iii) Who is the approving authority to whom the cost audit report shall be submitted by the cost auditor of the company?

Answer:

The report on the audit of cost records shall be submitted by the cost accountant in practice to the Board of Directors of the company.

Question 12:

(i) Whether cost auditor of the company has to directly submit his Cost Audit Report to the Central Government?

Answer:

No. The report on the audit of cost records shall be submitted by the cost accountant in practice to the Board of Directors of the company. Then the company shall within 30 days from the date of receipt of a copy of the cost audit report prepared in pursuance of a direction under sub-section (2) furnish the Central Government with such report along with full information and explanation on every reservation or qualification contained therein.

(ii) XYZ Ltd. started business on and from 16.2014. It has manufacture and sales Jute and Jute products. The entire product is exported to foreign countries. Total overall turnover of the company for the financial year ended 2014-15 is ₹ 200 crores. State whether the Companies

(Cost Records and Audit) Rules, 2014 is applicable to the company for the financial year 2014-15?

Answer:

Rule 3 of the Companies (Cost Records and Audit) Rules, 2014 state that the class of companies, including foreign companies defined in clause (42) of section 2 of the Act engaged in the production of the goods or providing services, specified in the Table, having an overall turnover from all its products and services of ₹ 35 crore or more during the immediately preceding financial year, shall include cost records for such products or services in their books of account.

As the turnover of the preceding financial year is not available, then Companies (Cost Records and Audit) Rules, 2014 is not applicable to the company for the financial year 2014-15.

(iii) The maximum period prescribed for presenting Cost Audit Report is 180 days from date of close of the financial year. If Financial Accounts of a company is not ready before the stipulated time period, how cost audit report will be completed reconciled with the financial books of the company?

Answer:

Maintenance of cost accounting records is a continuous process. No time limit has been prescribed in the rules for "submission" of records to cost auditor. The time limit of 180 days as prescribed in the rules is for submission of Cost audit Report in case Cost Audit is applicable to the company.

In case financial accounts are not ready or are yet to be adopted in the AGM, the same was clarified by the Cost Audit Branch earlier. In such cases the cost auditor can submit the report based on provisional accounts and submit a supplementary report of reconciliation in case there are materials differences in the final adopted accounts.

Question 13:

(i) A consignment consisted of two chemicals A and B. The invoices gave the following data:

Chemical A – 8,000 lb. @ ₹ 2.50 per lb	₹	**20,000**
Chemical B – 6,400 lb. @ ₹ 3.25 per lb	₹	**20,800**
Sales Tax	₹	**1632**
Railway Freight	₹	**768**
Total Cost	₹	**43,200**

A shortage of 400 lb in A and 256 lb. in B was noticed due to breakage. What stock rate you would adopt for pricing issues assuming a provision of 5% towards further deterioration.

Solution:

Chemical – A

8,000 lb. @ ₹ 2.50 per lb.	₹	20,000
Add: Sales Tax (4% on the value)		800
		20,800
Add: Railway Freight (in ratio of weight, i.e., 5/9 x 768)		426.67
		21,226.67

Gross Weight	8,000 lb.	
Less: Shortage	400 lb.	
	7,600 lb.	
Less: 5% Provision for deterioration	380 lb.	
Net Weight	7,220 lb.	
Rate for pricing Issues	21,226.67/7,220 lb	= ₹ 2.94

Chemical – B

6,400 lb. @ ₹ 3.25 per lb	₹	20,800
Add: Sales Tax and Railway Freight (832 + 341.33)		1,173.33
	₹	21,973.33

Gross Weight	6,400 lb.	
Less: Shortage	256 lb.	
	6,144 lb.	
Less: 5% for Deterioration	307.2 lb.	
	5,836.8 lb	
Rate for pricing Issues	21,973.33/5,836.8 lb	= ₹ 3.76

Note: It has been presumed that both shortages due to breakage and deterioration in quantity of raw materials are normal losses.

(ii) Purchase of Materials ₹ 2,00,000 (inclusive of Trade Discount ₹ 3,000); Fee on Board ₹ 10,000; Import Duty paid ₹ 15,000; Freight inward ₹ 20,000; Insurance paid for import by sea ₹ 12,000; Rebates allowed ₹ 4,000; Cash discount ₹ 3,000; CENVAT Credit refundable ₹ 7,000; Subsidy received from the Government for importation of these materials ₹ 18,000. Compute the landed cost of material (i.e. value of receipt of material).

Solution:

Computation of Material Cost Sheet

	Particulars	**Amount (₹)**
	Purchase price of Material	2,00,000
Add	Fee on Board	10,000
Add	Import Duties on purchasing the material	15,000
Add	Freight Inward during the procurement of material	20,000
Add	Insurance paid	12,000
	Total	**2,57,000**
Less	Trade Discount	3,000
Less	Rebates	4,000
Less	CENVAT Credit refundable	7,000
Less	Subsidy received from the Government for importation of materials	18,000
	Value of Receipt of Material	**2,25,000**

Notes:

(i) Cash discount is not allowed, as it is a financial item.

(ii) Subsidy received, rebates and CENVAT Credit refundable are to be deducted for the purpose of computing the material cost.

Question 14:

(i) Purchase of Materials ₹ 5,00,000 (inclusive of Trade Discount ₹ 8,000); Import Duty paid ₹45,000; Freight inward ₹ 62,000; Insurance paid for import by air ₹ 28,000; Rebates allowed ₹10,000; Cash discount ₹ 3,000; CENVAT Credit refundable ₹ 7,000; Abnormal Loss of Material ₹14,000; Price variance due to computation of cost under standard rates ₹ 1,500. Compute the landed cost of material.

Solution:

Computation of Landed Cost of Material

	Particulars	**Amount (₹)**
	Purchase price of Material	5,00,000
Add	Import Duties of purchasing the material	45,000
Add	Freight Inward During the procurement of material	62,000
Add	Insurance paid for freight	28,000
Add	Price Variance due to computation of cost under standard rates	1,500
	Total	**6,36,500**
Less	Trade Discount	8,000
Less	Abnormal loss of materials	14,000
Less	Rebates	10,000
Less	CENVAT Credit refundable	7,000
	Value of Receipt of Material	**5,97,500**

Note:

(i) Normal loss is not deducted

(ii) Price variance is allowable inclusion as the cost was maintained on standard cost.

(ii) Purchase of material $ 50,000 [Forward contract rate $ = 54.40 but $ = 54.60 on the date of importation]; Import Duty paid ₹ 5,65,000; Freight inward ₹ 1,62,000; Insurance paid for import by road ₹ 48,000; Cash discount ₹ 33,000; CENVAT Credit refundable ₹ 37,000; Payment made to the foreign vendor after a month, on that date the rate of exchange was $ = 55.20. Compute the landed cost of material.

Solution:

Computation of Landed Cost of Material

	Particulars	**Amount (₹)**
	Purchase price of material [50,000 × 54.60]	27,30,000
Add	Import Duties of purchasing the material	5,65,000
Add	Freight Inward during the procurement of material	1,62,000
Add	Insurance of the material (In case of import of material by road/Sea)	48,000
	Total	**35,05,000**
Less	CENVAT Credit refundable	37,000
	Value of Receipt of Material	**34,68,000**

Notes:

(a) Excess payment made to the vendor due to exchange fluctuation is not an includible cost, hence not considered.

(b) Though the forward contract rate was $ = 54.40, but the exchange rate on the date of importation is considered. Hence, included in the cost of materials. Accordingly, the purchase cost is computed considering the $ = 54.60.

(iii) Opening stock of raw materials (10,000 units) ₹ 1,80,000; Purchase of Raw Materials (35,000 units) ₹ 7,00,000; Closing stock of Raw Material 7,000 units; Freight Inward ₹ 85,000; Self-manufactured packing material for purchased raw materials only ₹ 60,000 (including share of administrative overheads related to marketing sales ₹ 8,000); Demurrage charges levied by transporter for delay in collection ₹ 11,000; Normal Loss due to shrinkage 1% of materials; Abnormal Loss due to absorption of moisture before receipt of materials 100 units.

Solution:

	Particulars	Quantity (units)	Amount (₹)
	Opening Stock of Raw materials	10,000	1,80,000
Add	Purchase of raw materials	35,000	7,00,000
Add	Freight inwards		85,000
			9,65,000
Less	Abnormal Loss of raw material (due to absorption of moisture before receipt of material) = [(7,00,000 + 85,000)× 100]/35,000	(100)	(2,243)
Less	Normal Loss of material due to shrinkage during transit [1% of 35,000 units]	(350)	-
Add	Cost of self-manufactured packing materials for purchased raw materials only (60,000 – 8,000)		52,000
	Cost of raw materials	44,550	10,14,757
Less	Value of Closing Stock = Total cost/(Total units – Units of Normal Loss) [10,14,757/(10,000 + 35,000-100 – 350)] × 7,000	(7,000)	(1,59,624)
	Cost of Raw materials consumed	**37,550**	**8,55,133**

Note:

(a) Units of normal loss adjusted in quantity only and not in cost, as it is an includible item

(b) Cost of self-manufactured packing materials does not include any share of administrative overheads or finance cost or marketing overheads. Hence, marketing overheads excluded.

(c) Abnormal loss of materials arises before the receipt of the raw materials, hence, valuation done on the basis of costs related to purchases only. Value of opening stock is not considered for arriving at the valuation of abnormal loss.

(d) Demurrage charges paid to transporter is an includible item. Since this was paid to the transporter, hence considered before estimating the value of abnormal loss.

Question 15:

(i) Basic pay ₹ 5,00,000; Lease rent paid for accommodation provided to an employee ₹2,00,000, amount recovered from employee ₹ 40,000, Employer's Contribution to P.F. ₹75,000, Employee's Contribution to P.F. ₹ 75,000; Reimbursement of Medical expenses ₹67,000, Hospitalisation expenses of employee's family member borne by the employer ₹19,000, Festival Bonus ₹ 20,000, Festival Advance ₹ 30,000. Compute the Employee cost.

Solution:

Computation of Employee Cost

	Particulars	**Amount (₹)**
	Basic Pay	5,00,000
Add	Net cost to employer towards lease rent paid for accommodation provided to an employee [lease rent paid **less** amount recovered from employee] [2,00,000 (-) 40,000]	1,60,000
Add	Employer's Contribution to PF	75,000
Add	Reimbursement of Medical Expenses	67,000
Add	Hospitalisation expenses of employee's family member paid by the employer	19,000
Add	Festival Bonus	20,000
	Employee Cost	**8,41,000**

Note:

(i) Festival advance is a recoverable amount, hence not included in employee cost.

(ii) Employee's contribution to PF is not a cost to the employer, hence not considered.

(ii) Gross pay ₹ 10,30,000 (including cost of idle time hours paid to employee ₹ 25,000); Accommodation provided to employee free of cost [this accommodation is owned by employer, depreciation of accommodation ₹ 1,00,000, maintenance charges of the accommodation ₹ 90,000, municipal tax paid for this accommodation ₹ 3,000], Employer's Contribution to P.F. ₹ 1,00,000 (including a penalty of ₹ 2,000 for violation of PF rules), Employee's Contribution to P.F. ₹ 75,000. Compute the Employee cost.

Solution:

Computation of Employee Cost

	Particulars	**Amount (₹)**
	Gross Pay (net of cost of idle time) =[10,30,000 (-) 25,000]	10,05,000
Add	Cost of accommodation provided by employer = Depreciation (+) Municipal Tax paid (+) maintenance charges	1,93,000

	= 1,00,000 + 90,000 + 3,000 = 1,93,000	
Add	Employer's Contribution to PF excluding penalty paid to PF authorities [1,00,000 (-) 2,000]	98,000
	Employee Cost	**12,96,000**

Note:

(a) Assumed that the entire accommodation is exclusively used by the employee. Hence, cost of accommodation provided includes all related expenses/costs, since these are identifiable/ traceable to the cost centre.

(b) Cost of idle time hours is assumed as abnormal. Since it is already included in the gross pay, hence excluded.

(c) Penalty paid to PF authorities is not a normal cost. Since, it is included in the amount of contribution, it is excluded.

(iii)

Trial Balance as on 31.3.2012 *(relevant extracts only)*

Particulars	Amount (₹)	Particulars	Amount (₹)
Materials consumed	**25,00,000**		
Salaries	**15,00,000**	**Special Subsidy received from Government towards Employee salary**	**2,75,000**
Employee Training Cost	**2,00,000**	**Recoverable amount from Employee out of perquisites extended**	**35,000**
Perquisites to Employees	**4,50,000**		
Contribution to Gratuity Fund	**4,00,000**		
Lease rent for accommodation provided to employees	**3,00,000**		
Festival Bonus	**50,000**		
Unamortised amount of Employee cost related to a discontinued operation	**90,000**		

Compute employee cost.

Solution:

Computation of Employee Cost

	Particulars	Amount (₹)
	Salaries	15,00,000

Add	Net Cost of Perquisites to Employees = Cost of Perquisites (-) amount recoverable from employee = 4,50,000 (-) 35,000	4,15,000
Add	Lease rent paid for accommodation provided to employee	3,00,000
Add	Festival Bonus	50,000
Add	Contribution to Gratuity Fund	4,00,000
Less	Special subsidy received from Government towards employee salary	(2,75,000)
	Employee Cost	**23,90,000**

Note:

(a) Recoverable amount from employee is excluded from the cost of perquisites.

(b) Employee training cost is not an employee cost. It is to be treated as an Overhead, hence, not included.

(c) Special subsidy received is to be excluded, as it reduces the cost of the employer.

(d) Unamortized amount of employee cost related to a discontinued operation is not an includible item of cost.

Question 16:

(i) Royalty paid on sales ₹ 30,000; Royalty paid on units produced ₹ 20,000, Hire Charges of equipment used for production ₹ 2,000, Design charges ₹ 15,000, Software development charges related to production ₹ 22,000. Compute the Direct Expenses.

Solution:

Computation of Direct Expenses

	Particulars	**Amount (₹)**
	Royalty paid on Sales	30,000
Add	Royalty paid on units produced	20,000
Add	Hire charges of equipment used for production	2,000
Add	Design Charges	15,000
Add	Software development charges related to production	22,000
	Direct Expenses	**89,000**

Note:

(a) Expenses are related to either manufacturing of the product or rendering of service.

(b) These costs are directly identifiable and can be linked with the cost object and are not related to direct material cost or direct employee cost. Hence, these are considered as Direct Expenses.

(ii) A factory has 3 production departments (P1, P2, P3) and 2 service departments (S1 & S2). The following overheads & other information are extracted from the books for the month of January 2015.

Expense	Amount (₹)
Rent	6,000
Repair	3,600
Depreciation	2,700
Lighting	600
Supervision	9,000
Fire Insurance for stock	3,000
ESI contribution	900
Power	5,400

Particulars	P1	P2	P3	S1	S2
Area sq ft	400	300	270	150	80
No. of workers	54	48	36	24	18
Wages	18,000	15,000	12,000	9,000	6,000
Value of plant	72,000	54,000	48,000	6,000	
Stock Value	45,000	27,000	18,000		
Horse power of plant	600	400	300	150	50

Allocate or apportion the overheads among the various departments on suitable basis.

Solution:

The primary distribution of overheads is as follows:- ₹

Expense	**Total**	**Basis**	**P1**	**P2**	**P3**	**S1**	**S2**
Rent	6,000	Area sq ft	2,000	1,500	1,350	750	400
Repair	3,600	Plant value	1,440	1,080	960	120	-
Depreciation	2,700	Plant value	1,080	810	720	90	-
Lighting	600	Area sq ft	200	150	135	75	40
Supervision	9,000	No of workers	2,700	2,400	1,800	1,200	900
Fire Insurance for stock	3,000	Stock value	1,500	900	600	-	-
ESI contribution	900	Wages	270	225	180	135	90
Power	5,400	Horse power	2,160	1,440	1,080	540	180
Total	31,200		11,350	8,505	6,825	2,910	1,610

(iii) In an Engineering Factory, the following particulars have been extracted for the quarter ended 31st December, 2014. Compute the departmental overhead rate for each of the production departments, assuming that overheads are recovered as a percentage of direct wages.

	Production Depts.			**Service Depts.**	
	A	**B**	**C**	**X**	**Y**
Direct Wages (₹)	**30,000**	**45,000**	**60,000**	**15,000**	**30,000**
Direct Material	**15,000**	**30,000**	**30,000**	**22,500**	**22,500**
No. of workers	**1,500**	**2,250**	**2,250**	**750**	**750**
Electricity KWH	**6,000**	**4,500**	**3,000**	**1,500**	**1,500**
Assets Value	**60,000**	**40,000**	**30,000**	**10,000**	**10,000**
No. of Light points	**10**	**16**	**4**	**6**	**4**
Area Sq. Yards	**150**	**250**	**50**	**50**	**50**

The expenses for the period were:

	₹
Power	**1,100**
Lighting	**200**
Stores Overhead	**800**
Welfare of Staff	**3,000**

Depreciation	**30,000**
Repairs	**6,000**
General Overheads	**12,000**
Rent and Taxes	**550**

Apportion the expenses of Service Dept. Y according to direct wages and those of Service Department X in the ratio of 5: 3: 2 to the production departments.

Solution:

Statement showing apportionment of overheads and computation of OH rates:

Particulars	Basis	Total (₹)	A (₹)	B (₹)	C (₹)	X (₹)	Y (₹)
Power	KWH (4:3:2:1:1)	1,100	400	300	200	100	100
Wages	Actual	45,000	—	—	—	15,000	30,000
Material	Actual	45,000	—	—	—	22,500	22,500
Lighting	Light Points (5:8:2:3:2)	200	50	80	20	30	20
Stores overhead	Materials (2:4:4:3:3)	800	100	200	200	150	150
Welfare of staff	No. of workers (2:3:3:1:1)	3,000	600	900	900	300	300
Depreciation	Assets Value (6:4:3:1:1)	30,000	12,000	8,000	6,000	2,000	2,000
Repair	Assets Value (6:4:3:1:1)	6,000	2,400	1,600	1,200	400	400
General Overheads	Direct Wages (2:3:4:1:2)	12,000	2,000	3,000	4,000	1,000	2,000
Rent & Taxes	Area (3:5:1:1:1)	550	150	250	50	50	50
		1,43,650	**17,700**	**14,330**	**12,570**	**41,530**	**57,520**
Costs of 'X'	5:3:2		20,765	12,459	8,306	(41,530)	—
Costs of 'Y'	2:3:4		12,782	19,173	25,565	—	(57,520)

	51,247	**45,962**	**46,441**	—	—

Overhead Rate as % on direct wages

A = [51,247/30,000] x 100 = 170.82%

B = [45,962/45,000] x 100 = 102.14%

C = [46,441/60,000] x 100 = 77.40%

Question 17:

(i) An advertising agency has received an enquiry for which you are supposed to submit the quotation. Bill of material prepared by the production department for the job states the following requirement of material:

Paper 10 reams @ ₹ 1,800 per ream

Ink and other printing material ₹ 5,000

Binding material & other consumables ₹ 3,000

Some photography is required for the job. The agency does not have a photographer as an employee. It decides to hire one by paying ₹10,000 to him. Estimated job card prepared by production department specifies that service of following employees will be required for this job:

Artist (₹ 12,000 per month) 80 hours

Copywriter (₹ 10,000 per month) 75 hours

Client servicing (₹ 9,000 per month) 30 hours

The primary packing material will be required to the tune of ₹ 4,000. Production Overheads 40% of direct cost, while the S & D Overheads are likely to be 25% on Production Cost. The agency expects a profit of 20% on the quoted price. The agency works 25 days in a month and 6 hours a day.

Solution:

Quotation for a Printing Job

Items	**Amount ₹**	**Amount ₹**
Direct material required:		
Paper 10 x 1800	18,000	
Ink & other printing material	5,000	
Binding material & consumables	3,000	
Primary packing material	4,000	30,000

Direct labour spent:		
Artist (12,000/25 x 6) x 80	6,400	
Copy writer (10,000/(25 x 6)) x 75	5,000	
Client Servicing (9,000/(25 x 6)) x 30	1,800	13,200
Photographer's charges		10,000
Prime Cost		53,200
Factory Overheads applied @ 40% on Direct Cost		21,280
Production Cost		74,480
S & D overheads applied @ 25% on Production Cost		18,620
Total Cost		93,100
Profit (20% on price i. e. 25% on cost)		23,275
Price to be quoted		1,16,375

(ii) How would you treat Self manufactured packing material as per CAS 9 related to Packing Material Cost?

Answer:
Self manufactured packing materials shall be valued including direct material cost, direct employee cost, direct expenses, job charges, factory overheads including share of administrative overheads comprising factory management and administration and share of research and development cost incurred for development and improvement of existing process or product.

(iii) How would you compute cost of utilities generated for the purpose of inter unit transfers as per CAS 8?

Answer:
Cost of utilities generated for the purpose of inter unit transfers shall comprise of direct material cost, direct employee cost, direct expenses, factory overheads and the distribution cost incurred for such transfers.

Question 18:

(i) How would you treat repairs and maintenance costs not traceable to a cost object as per CAS 12?

Answer:

Where the repairs and maintenance cost is not directly traceable to cost object, it shall be assigned based on either of the following two principles:
(a) Cause and effect- Cause is the process or operation or activity and effect is the incurrence of cost.

(b) Benefits received-Overheads are to be apportioned to the various cost objects in proportion to the benefits received by them.

(ii) How will you treat an item of Direct Expenses that does not meet the test of materiality as per CAS 10?

Answer:

If an item of Direct Expenses does not meet the test of materiality, it can be treated as part of overheads.

(iii) How would you treat Separation cost due to voluntary retirement, retrenchment, termination etc. as per CAS 7 related to Employee Cost?

Answer:

The separation costs related to voluntary retirement, retrenchment termination etc shall be amortized over the period benefitting from such costs. The amortized separation costs for the period shall be treated as indirect cost and assigned to cost objects in an appropriate manner.
However unamortized amount related to discontinued operations shall not be treated as employee cost.

(iv) What is 'equalised transportation cost' under CAS 5?

Answer:

The term 'equalised transportation cost' has been defined as average transportation cost incurred during a specified period. The standard requires the detailed record to be maintained w.r.t collection, allocation, and apportionment of transportation cost.

(v) What do you understand by the term 'collection of overheads' as per CAS 3?

Answer:

Collection of overheads means the pooling of indirect items of expenses from books of account and supportive/ corroborative records in logical groups having regards to their nature and purpose.
Overheads are collected on the basis of pre-planned groupings, called cost pools. Homogeneity of the cost components in respect of their behaviour and character is to be considered in developing the cost pool. Variable and fixed overheads should be collected in separate cost pools under a cost centre. A great degree of homogeneity in the cost pools are to be maintained to make the apportionment of overheads more rational and scientific. A cost pool for maintenance expenses will help in apportioning them to different cost centres which use the maintenance service.

(vi) What is the value of Goods used for captive consumption as per CAS 4?

Answer:

According to the Central Excise Valuation (Determination of Price of Excisable Goods) Rules 2000, the assessable value of goods used for captive consumption is 110% w.e.f. 05-08-2003 of

cost of production of such goods, and as may be prescribed by the Government from time to time.

(vii) What do you understand by the term 'service cost centre' as per CAS 13?

Answer:

The cost centre which provides services to Production, Operation or other Service Cost Centre but not directly engaged in manufacturing process or operation is a service cost centre. A service cost centre renders services to other cost centres / other units and in some cases to outside parties.
Examples of service cost centres are engineering, workshop, research & development, quality control, quality assurance, designing, laboratory, welfare services, safety, transport, Component, Tool stores, Pollution Control, Computer Cell, dispensary, school, crèche, township, Security etc.

Question 19:

(i) How would you treat the forex component of imported packing material as per CAS 9?

Answer:

The forex component of imported packing material cost shall be converted at the rate on the date of the transaction. Any subsequent change in the exchange rate till payment or otherwise shall not form part of the packing material cost.

(ii) How would you treat overtime premium as per CAS 7 related to Employee Cost?

Answer:

Overtime premium shall be assigned directly to the cost object or treated as overheads depending on the economic feasibility and specific circumstances requiring such overtime.

(iii) How would you determine the cost of utilities generated for inter company transfers as per CAS 8?

Answer:

Cost of Utilities generated for the inter company transfers shall comprise direct material cost, direct employee cost, direct expenses, factory overheads, distribution cost and share of administrative overheads.

Question 20:

(i) "Risk of material misstatement at the assertion level consists of two components" – explain.

Answer:

The risk of material misstatement at the assertion level consists of two components as follows:

- "Inherent risk" is the susceptibility of an assertion to a misstatement that could be material, either individually or when aggregated with other misstatements, assuming that there are no related controls. The risk of such misstatement is greater for some assertions and related cost heads, items of cost and disclosures than for others. For example, complex calculations are more likely to be misstated than simple calculations. Cost heads consisting of amounts derived from cost estimates that are subject to significant measurement uncertainty pose greater risks than do cost heads consisting of relatively routine, factual data.
- External circumstances giving rise to business risks may also influence inherent risk. For example, technological developments might make a cause changes to a manufacturing process rendering the existing classification of variable and fixed costs inappropriate and cause product contribution to be misstated.. In addition to those circumstances that are peculiar to a specific assertion, factors in the entity and its environment that relate to several or all of the classes of cost heads, items of cost, or disclosures may influence the inherent risk related to a specific assertion. These latter factors include, for example, external market constraints may cause normal capacity as an unreliable basis for determining unit costs.
- "Control risk" is the risk that a misstatement that could occur in an assertion and that could be material, either individually or when aggregated with other misstatements, will not be prevented, or detected and corrected, on a timely basis by the entity's internal control. That risk is a function of the effectiveness of the design and operation of internal control in achieving the entity's objectives relevant to preparation of the entity's Cost Statements. Some control risk will always exist because of the inherent limitations of internal control.
- Inherent risk and control risk are the entity's risks; they exist independently of the audit of the Cost Statements. The auditor is required to assess the risk of material misstatement at the assertion level as a basis for further audit procedures, though that assessment is a judgment, rather than a precise measurement of risk. When the auditor's assessment of the risk of material misstatement includes an expectation of the operating effectiveness of controls, the auditor performs tests of controls to support the risk assessment. The CAAS AND GACAAPs do not ordinarily refer to inherent risk and control risk separately, but rather to a combined assessment of the "risk of material misstatement." Although the CAAS AND GACAAPs ordinarily describe a combined assessment of the risk of material misstatement, the auditor may make separate or combined assessments of inherent and control risk depending on preferred audit techniques or methodologies and practical considerations. The assessment of the risk of material misstatement may be expressed in quantitative terms, such as in percentages, or in non-quantitative terms. In any case, the need for the auditor to make appropriate risk assessments is more important than the different approaches by which they may be made.
- "Detection risk" is the risk that the cost auditor will not detect a misstatement that exists in an assertion that could be material, either individually or when aggregated with other misstatements. Detection risk is a function of the effectiveness of an audit procedure and of its application by the auditor. Detection risk cannot be reduced to zero because the auditor usually does not examine all of cost heads, items of cost, or disclosure and because of other factors. Such other factors include the possibility that a cost auditor might select an inappropriate audit procedure, misapply an appropriate audit procedure, or misinterpret the audit results. These other factors ordinarily can be addressed through adequate planning, proper assignment of personnel to the engagement team, the application of professional skepticism, and supervision and review of the audit work performed.
- Detection risk relates to the nature, timing, and extent of the auditor's procedures that are determined by the auditor to reduce audit risk to an acceptably low level. For a given

level of audit risk, the acceptable level of detection risk bears an inverse relationship to the assessment of the risk of material misstatement at the assertion level. The greater the risk of material misstatement the auditor believes exists, the less the detection risk that can be accepted. Conversely, the less risk of material misstatement the auditor believes exist, the greater the detection risk that can be accepted.

(ii) What are the objectives and functions of the Cost Audit and Assurance Standards?

Answer:

The following are the objectives and functions of the Cost Audit and Assurance Standards Board:

a) To identify areas in which Standards on Quality Control, Assignment Standards, Standards on Auditing and Standards on Related Services need to be developed.

b) To develop Standards on Quality Control, Assignment Standards, Standards on Auditing and Standards on Related Services so that they may be issued under the authority of the Council of the Institute.

c) To develop Guidance Notes on issues arising out of any Standard or on auditing issues pertaining to any specific industry or on generic issues so that they may be issued under the authority of the Council of the Institute.

d) To formulate and issue Technical Guides, Practice Manuals and other Papers under its own authority for guidance of Cost Accountants in the cases felt appropriate by the Board.

e) To review the existing Standards, Guidance Notes, Technical Guides, Practice Manuals and other Papers to assess their relevance in the changed conditions and to undertake their revision, if necessary.

f) To provide Interpretations or formulate General Clarifications, where necessary, on issues arising from the Standards.

(iii) Explain the statement with the help of Cost Auditing Standard – 101 "Cost Auditor includes audit partner"

Answer:

As per Cost Auditing Standard - 101 "Audit partner" means the partner or other person in the firm who is a member of the Institute of Cost Accountants of India and is in full time practice and is responsible for the engagement and its performance, and for the report that is issued on behalf of the firm, and who, where required, has the appropriate authority from a professional, legal or regulatory body.

(iv) What are the matters that are relevant in formulating audit strategy and drawing up the audit plan?

Answer:

As per Cost Auditing Standard – 101, matters that are relevant in formulating audit strategy and drawing up the audit plan are as following:

SECTION - B

Question 21:

(i) What are the features of a good Internal Control System?

Answer:

A good Internal Control System should possess the following features -

i. Proper Organisation Structure:
   (a) A good Internal Control System should involve segregation of duties in such a manner that error or fraud cannot take place.
   (b) Proper division of duties, with respect to access to assets, authorisation of transactions, execution of transactions and record keeping should be based on the organisation structure.
ii. Scheme of authorisation and procedures: A good Internal Control System should define proper authorizations and procedures. *The* scheme of authorisation should ensure that -
   (a) Every transaction is duly authorised by the competent official,
   (b) Every transaction is properly accounted in the books, and
   (c) Supervisory procedures are laid down based on the responsibilities of each official.
iii. Internal Check:
   (a) Accounting Procedures should be designed in such a manner that no single person is authorised to carry out all the operations involved in a transaction.
   (b) The system should institute a prompt and independent verification of an individual's work by prescribing cross-checks and cross-reconciliations as a part of the operating procedure itself and also provide for complimentary allocation of duties.
iv. Suitable Personnel:
   (a) Competent and honest persons alone should be employed in the organisation so that the system operates effectively.
   (b) The qualification, experience and personal characteristics of the personnel involved are important in establishing and maintaining a system of Internal Control.
v. Internal Audit System:
   (a) The Management may establish an Internal Audit Department and delegate some of its supervisory functions like review of Internal Control.
   (b) Internal Audit constitutes a separate component of Internal Control System undertaken by specially assigned staff with the objective of determining whether Internal Controls are well designed and operating properly.

(ii) What are the objectives of Management Audit?

Answer:

Management audit is carried out to –

a. appraise the management performance at all the levels;

b. spotlight the decision or activities, that are not in conformity with organizational objectives.

c. ascertain that objectives are properly understood at all levels;

d. ascertain that controls provided at different levels are adequate and effective in accomplishing management objectives or plans of operations;

e. evaluate plans which are projected to meet objectives.

f. review the company's organizational structure, i.e. assignment of duties and responsibilities and delegation of authority.

The main objectives of management audit can be summarized as follows:-

(I) to ensure optimum utilization on all the resource employed, including money, materials, machines, men and methods;

(II) to highlight efficiencies in objectives, policies, procedures and planning;

(III) to suggest improvement in methods of operations;

(IV) to highlight weak links in organizational structure and in internal control systems, and suggest necessary improvements;

(V) to help management by providing health indicators and help prevent sickness or help cure in case of sickness; and

(VI) to anticipate problems and suggest remedies to solve them in time.

Question 22:

(i) What are the pre-condition for initiating Management Audit?

Answer:

Pre -conditions for Management Audit

(a) Overall Objectives: The objectives of the enterprise should be clearly perceived, identified and stated in specific terms.

(b) Operational Plans: The overall objectives of the organisation are to be analysed into quantifiable, detailed targets and plans for various segments like production, sales, etc.

(c) Management Hierarchy: An organisational structure should be created, with specific targets and objectives for each function, and also their reporting responsibilities.

(d) Performance Measurement: There should be a mechanism for measuring the performance of each functional area or responsibility centre. Performance expressed in quantitative terms facilitates comparison with objectives and targets. MIS: A suitable Management Information System (MIS) should provide timely and adequate information to the Management Auditor on various efficiency aspects.

(e) Attitude: There should be co-ordination between the Management Auditor and various department heads. A motivation system may be adopted, e.g. incentives for best performance.

(ii) What aspects should know by the Management Auditor before commencing Audit?

Answer:

Different aspects should know by the Management Auditor before commencing his Audit:

I. Aims or Purpose for which the organization has been created. Profit motive should be properly balanced with said objects like creation of employment opportunities, development of backward areas, etc..
II. Management Structure including delegation of authority, planning and budgeting.
III. Internal Control, system of work, methods and procedures together with authority & sanction procedures.
IV. MIS Reports, decision-making process, reports required for proper Management and the reports actually received.
V. Personnel Policy and Personnel Management including requirements, training, welfare incentives and disincentives.
VI. Purchase Aspects like Materials Management including sources of important Raw Materials, receipt of materials of the required quality and quantity, storage, supervision and safe custody, insurance and procedure for issue of materials.
VII. Production Aspects, e.g. nature of production technology, production planning, factory layout, design and installed capacity.
VIII. Sales Aspects, e.g. Sales Management and Sales Planning, including advertisement policy.
IX. Accounts and Finance matters, Financial Management of the organization, books and records including Cast Accounting Records, Cost Accounting System and financial accounting policies.

Question 23:
Distinguish the following –

(i) Financial Audit and Management Audit

(ii) Cost Audit and Management Audit

(iii) Management Audit and Internal Audit
Answer:

(i) Distinguish between Financial Audit and Management Audit.

Aspects	Financial Audit	Management Audit
Legal Requirement	It is compulsory in the case of enterprises like Companies, Trusts, Societies, etc.	There is no legal compulsion as regards Management Audit. It is voluntary.
Periodicity	Financial Audits are conducted annually.	Management Audits are conducted once in 2 or 3 years.
Time Period Covered	It covers business transactions of the past financial year.	There is no limitation as to the period to be covered.
Scope	To express an opinion on the true and fair view of the Financial Statements.	To express an opinion on performance of the Management during a particular period, and to

		suggest remedial measures, if required.
Audit Focus	It is concerned with financial aspects of business transactions, for the year under audit.	It is concerned with review of the past performance, to ascertain whether it is in tune with the objectives, policies and procedures of the enterprise.
Reporting Authority	The Statutory Auditor reports to the Owners, i.e. Shareholders in case of a Company.	The Management Auditor reports to the Management.

(ii) Distinguish between Cost Audit and Management Audit

Aspects	Cost Audit	Management Audit
Legal Requirement	Cost Audit is compulsory for Companies engaged in production, processing, manufacture or mining, and covered u/s 209(1)(d) of the Companies Act.	There is no legal compulsion as regards Management Audit. It is Voluntary.
Qualification of Auditor	It shall be done by an Auditor who shall be a cost accountant within the meaning of the Cost and Works Accounts Act, 1959.	It may be done by any independent person. However, professional Accountants are more suitable on account of their knowledge.
Focus	It involves verification of Cost Records, to determine internal efficiency of the Enterprise.	It involves a review of the past performance of the enterprise to ascertain whether it is in tune with the objectives, policies, etc.
Time period	Financial Year of the enterprise.	May be longer than the entity's financial year.
Reporting Authority	Cost Auditor reports to the Central Government, with a copy to the Company.	The Management Auditor reports to the Management.
Contents of Report	These are governed by the Companies Cost Audit (Report) Rules, notified by Central Government.	The contents of the Report are based on the Management Auditor's findings. There is no specific format for the same.
Time Limit for reporting	Cost Audit Report should be submitted within the prescribed time.	There is no rigid timeframe as regards submission of Management Audit Report.

(iii) Distinguish between Management Audit and Internal Audit

Aspects	Management Audit	Internal Audit
Definition	Management Audit is - (a) the systematic independent appraisal activity, (b) within an organisation, (c) for a review of the Management's efficiency, (d) in its decision-making function.	Function of internal control with the objective of determining whether other internal controls are well designed and properly operated.
Relationship to Internal	It is not a part of Internal Control. It is over and above the regular internal	This operates as a part of Internal Control System.

Control	control system.	
Objectives	It is concerned with appraising - • Management's accomplishment of organizational objectives, • Management functions of planning, organizing, directing, and controlling, and • Adequacy of Management's decisions and action in moving towards its objectives.	• To determine whether internal controls are well designed and properly operated, and • To assist all members of Management in the objective of discharging of their responsibilities by reviewing activities and procedures.
Function	Constructive Function, i.e. to provide suggestions for improvement.	Protective Function, I.e. to safeguard the assets of the Enterprise.
Areas	All aspects of managerial decision-making are analysed, to see whether they are in tune with Management policies, objectives and goals.	The traditional field of Internal Auditors is restricted to financial accounting and internal control.
Aspect	Qualitative aspects of decision-making are analysed.	Internal Audit Function focuses more on quantitative aspects when compared to Management Audit.

Question 24:

(i) Explain the needs and objectives of Operational Audit?

Answer:

Need for Operational Audit

Operational Audit overcomes the following problems / gaps faced by the Management in operational areas -

a. Information Needs: Managers require full, objective and current information about conditions prevalent in their operational areas, and also in areas beyond their direct observation. Operational Audit provides the required information to them.

b. Fill up Communication Gaps: Conventional sources of Management information are -

   (A) Departmental Manager's routine performance report,
   (B) Internal Audit Reports,
   (C) Periodic Special Investigation, and
   (D) Survey.

   These sources create communication gaps on activities, which do not come under the direct observation of managers. Hence, Operational Audit is required.

(c) Effectiveness of Managers: Executives and Managers are too pre-occupied with

implementation of plans and achieving targets. They are left with very little time to collect information and locate problems. Hence, an independent Operational Audit team should provide them data inputs on the effectiveness of operations.

(d) Undetected Cracks: Even when a department is working well and smoothly, there may be some crack or gap in operations or in controls. Operational Audit is a management information source since it will find out the possibilities of such undetected gaps / lapses in control.

(e) Analytical Evaluation: Departmental Managers and their aides generally routine transmit information. But an Independent Operational Audit Team will be able to evaluate the operations analytically.

(f) Unbiased Reports: Performance Reports contained in the annual accounts and routine reports prepared by the operating departments have their own limitations, may be subjective, manipulated or biased. Hence, Operational Audit is required.

(g) Shortcomings of Internal Audit: Conventional Internal Audit reports are often routine and mechanical in character and have definite leaning towards accounting and financial information. They are historical in nature. Operational Audit overcomes this limitation of Internal Audit.

(h) Need for Current Control: Surveys and special investigations are occasional in character. They are costly, time consuming and keep the departmental key personnel busy during that period. They are undertaken mostly to find causes of certain affairs or to fix responsibility for certain undesirable happenings. These basically attempt to carry out a post-mortem rather to give a signal for dangers and forthcoming disasters. Operational Audit is required to ensure day-to-day control of activities.

(i) Environment Changes: Operational Audit is required to analyse whether the activities, operations, procedures, methods and objectives of the enterprise are in tune with its present environmental conditions. There is a need for an instrument, which should signal change in advance.

Objectives of Operational Auditing

The general objectives of Operational Audit are -

I. Appraisal of Controls:

(a) Internal Controls provide the essential tools / measures to ensure proper performance in each functional or organizational area for accomplishing the desired organizational objective.

(b) The purpose of operational Audit is to determine whether the controls are - (i) adequate, and (ii) effective in accomplishing Management's objectives or plans or operations.

(c) The Operational Auditor reviews internal controls and reports to ascertain whether they bring the performance, qualitatively and quantitatively, to the notice of the Management, also within the organisation's policies and plans are being carried out.

II. Evaluation of Performance: In the area of performance appraisal, the Operational Auditor is basically concerned with -

(a) Analysing the technical efficiency of the operations,
(b) Accumulating information and evidence to measure the effectiveness, efficiency and economy of operations, and
(c) Comparing actual performance with applicable standards, procedures, rules, policies and plans.
(d) Performance Evaluation is generally based on - (i) Productivity, (ii) Personnel, (iii) Workload, (iv) Cost, & (v) Quality.

III. Appraisal of Management objectives and plans:

(a) Every Activity in an organization is the product of basic plans and objectives set by the Management. Hence, Management policies, plans and objectives should be evaluated properly.
(b) The aim of operational Auditing is to appraise operations and controls and adherence to prescribed and laid-down policies and not to go into the question of appropriateness of plans and objectives. But, the Operational Auditor may look into aspects like -
   - Clarity of objectives,
   - Proper communication of objectives to the personnel responsible for implementation,
   - Feedback from personnel, i.e. whether they have understood the objectives in the same sense as meant by the Management, and
   - Apparent conflict in the objectives and its effect on operations.

IV. Appraisal of Organisation Structure:

(a) Organisational structure, an essential element of internal control design, provides the line of relationships and delegation of authority and tasks.
(b) The Operational Auditor should consider the following in evaluating the organisation structure -
   - Conformity with Management objectives,
   - Proper match between responsibility and authority,
   - Clear definition of Scalar Line of Authority from top to bottom, and
   - Possibility of defective delegation, overlapping or duplication of work.

Question 25:

Distinguish the followings –
(i) Operational Audit and Internal Audit
(ii) Financial Audit and Operational Audit
(iii) Operational Audit and Management Audit

Answer:

(i) Distinguish between Operational Audit and Internal Audit.

Particulars	Operational Audit	Internal Audit
Definition	Review and appraisal of operations of an organisation carried on by a competent independent person.	Function of internal control with the objective of determining whether other internal controls are well designed and in place.
Link with Internal Control	This is not a part of Internal Control. This is over and above the regular internal control system.	This operates as a part of Internal Control System.
Objectives	1. Appraisal of controls. 2. Evaluation of performance. 3. Appraisal of objectives and plans. 4. Appraisal of organizational structure.	1. To determine whether internal controls are well designed and properly operated, and 2. To assist all members of Management in the objective discharge of their responsibilities by reviewing activities and procedures.
Function	Constructive Function, i.e. to provide suggestions for improvement.	Protective Function, i.e. to safeguard the assets of the enterprise.
Areas	All aspects of operations are analysed to see whether they are in tune with Management Policies, Objectives and Goals.	The traditional field of internal Auditors is restricted to financial accounting and internal control.
Aspect	Qualitative Aspects are analysed. For example in Cash Management, the Operational Auditor would analyse - 1. Whether quantum of cash in hand is related to requirement of cash? 2. Whether surplus cash is promptly invested in short-term securities for maximizing return? 3. Whether maximum possible protection has been given to cash?	1. The Internal Audit Function is said to focus more on quantitative aspects when compared to Operational Audit. 2. Internal Auditors view and examine internal controls in financial and accounting areas to ensure that possibilities of loss, wastage and fraud are not found. 3. They check the accounting books and records to see whether the internal checks work properly and the resulting accounting data are reliable.

(ii) Distinguish between Financial Audit and Operational Audit.

Particulars	Financial Audit	Operational Audit
Purpose	Concerned with opinion that whether the historical information recorded is correct or not.	Emphasizes on effectiveness and efficiency of operations for future performance.
Area	Restricted to the matters directly affecting the appropriateness of the presented Financial Statements.	Covers all activities that are related to efficiency and effectiveness of operations directed towards accomplishment of objectives of organization.
Reporting	Financial Audit Report is sent to all Shareholders, Lenders, Stakeholders and Regulatory Authorities.	Operational Audit report is primarily for the Management and internal use.
Scope	Limited to reporting the findings of audit to the persons entitled to the Report, i.e. Shareholders.	Operational Auditing is not limited to reporting, it also includes suggestions for improvement.

(iii) Distinguish between Operational Audit and Management Audit.

Particulars	Operational Audit	Management Audit
Definition	Review and appraisal of operations of an organisation carried on by a competent independent person.	The Audit of the Management focuses on evaluating Managers' ability to manage.
Areas Covered	Operational Areas where standards and actual performance defined and expressed in quantitative terms are considered.	It is concerned with appraising - • Management's accomplishment of organizational objectives, • Management functions of planning, organizing, directing, and controlling, and • Adequacy of Management's decisions and action in moving towards its objectives.
Focus	Focus is on efficiency and economy in operations.	Focus is on effectiveness of Management decisions and actions.
Standards	Expectations or standards are expressed in quantitative terms, for comparison of actual therewith.	Standards are not defined in quantitative or monetary terms.
Evaluation	It is objective in nature, since standards are quantifiable.	Evaluation is comparatively subjective, since standards are not defined in monetary terms.
Technical Background	Operational Auditor should have a strong technical and operational background.	Management Auditor should have conceptual background. Technical Background is desirable, but not compulsory.

SECTION - C

Question 26:

(i) From the following figures decide whether it is worthwhile to investigate the variance:

	₹
1. Cost of investigation of variance	**6,400**
2. Cost of correction of out-of-control process	**20,000**
3. Cost of allowing the process to remain out of control	**95,000**
4. Probability of being in control	**0.90**

Solution:

A. Expected Cost of investigation

(i) Cost of investigation of variance (This will have to be incurred, if this decesion is taken)	₹ 6,400
(ii) Total cost of correction of out control situation is ₹ 20,000, but only 10% of this will be incurred, because probability of control is 90%. Therefore, expected cost of correction. (10% of ₹ 20,000)	₹ 2,000
Total	₹8,400

B. Expected Cost of allowing the process to remain out of control

Total cost of allowing the process to remain out of control is ₹ 95,000. Probability of control is 90%
∴ Expected cost of allowing the process to remain out of control- ₹ 95,000 x 10% = 9.500

∴ From above, it is clear that expected cost of investigation is less than expected cost of allowing the process to remain out of control. Therefore, advice to management will be to investigate the variance.

(ii) Manufacture's specification capacity for a machine per hour = 1500 units
No. of shifts (each shift of 8 hours each) = 3 shifts
Paid holidays in a year (365 days):
Sundays 52 days
Other holidays 8
Annual maintenance is done during the 8 other holidays.
Preventive weekly maintenance is carried on during Sundays.
Normal idle capacity due to lunch time, shift change etc =1hour.
Production during last five years = 76.20, 88, 65.82, 78.5, 76.6 lakhs units
Actual production during the year = 76.40 lakhs units.
Calculate Installed capacity, Available capacity, Actual capacity, Idle capacity and Abnormal idle capacity as per CAS 2 from the data given.

Solution:

Installed capacity for the machine	= 365 x 8 x 3 x 1500
	= 131.40 lakhs units
Available capacity	= (365 – 52 - 8) x (8 -1) x 3 x 1500
	= 305 x 7 x 3 x 1500
	= 96.08 lakhs units
Normal capacity	= (76.2 + 78.5 + 76.6)/3
	= 77.1 lakhs units.
Actual capacity utilization	= 76.4 lakhs units
	= 76.4/131.4 x 100
	= 58.14%
Idle capacity	= (131.40 - 76.4) lakhs units
	= 55 lakhs units
	= 55 /131.4 x 100
	= 41.86%
Abnormal idle capacity	= (77.1 - 76.4) lakhs units
	= 0.70 lakhs units

Question 27:

(i) X Ltd presented the following particulars on 31.3.2015.

You are asked to compute the Inventory Turnover Ratio of each material:

	Material X ₹	**Material Y** ₹
Stock (as on 1.4.2014)	**12,000**	**16,000**
Purchases	**60,000**	**1,00,000**
Stock (as on 31.3.2015)	**18,000**	**24,000**

Solution:

Computation of the Inventory Turnover Ratio

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods}}{\text{Average Stock}}$$

	Material X ₹	Material Y ₹
(a) Cost of Goods Sold		
Opening Stock	12,000	16,000
Add: Purchases	60,000	1,00,000

	72,000	1,16,000
Less: Closing Stock	18,000	24,000
Cost of Goods Sold	54,000	92,000
(b) Average Stock		
Opening Stock	12,000	16,000
Add: Closing Stock	18,000	24,000
	30,000	40,000
∴ Average Stock	$\frac{30,000}{2}$	$\frac{40,000}{2}$
	= 15,000	= 20,000
∴ Inventory Turnover Ratio = $\frac{\text{Cost of Goods Sold}}{\text{Average Stock}}$ =	$\frac{54,000}{15,000}$	$\frac{92,000}{20,000}$
	= 3.6 times	= 4.6 times

(ii) A chemical manufacturing unit uses ingredient A as the basic material. The cost of the material is ₹ 20 per kg and the Input-Output ratio is 120%. Due to a sudden shortage in the market the material becomes non-available and the unit is considering the use of one of the following substitutes available:

Materials	Input - Output Ratio	₹/ per Kg
B1	**135%**	**26**
B2	**115%**	**30**

You are required to recommend which of the above substitutes is to be used.

Solution:

Cost of Raw Material = $\frac{\text{Input}}{\text{Output}}$ x Rate per Unit

Cost of Material of: (Per Kg)

$$A = \frac{120}{100} \times 20 = ₹24.00$$

$$B = \frac{135}{100} \times 26 = ₹35.10$$

$$C = \frac{115}{100} \times 30 = ₹34.50$$

Material B2 is cheaper to be used in the final product. It is cheaper than B1 by ₹0.60 (₹35.10 - ₹34.50)

Question 28:

(i) Compur Ltd manufactures two parts 'X' and 'Y' for computer Industry.

- **X: Annual production and Sales of 1,00,000 units at a Selling price of ₹100.05 per unit.**
- **Y: Annual production and Sales of 50,000 units at a Selling price of ₹150 per unit.**

Direct and Indirect Costs incurred on these two parts are as follows:- **(₹ in thousands)**

Particulars	X	Y	Total
Direct Material Cost (Variable)	4,200	3,000	7,200
Labour Cost (Variable)	1,500	1,000	2,500
Direct Machining Costs (See Note)	700	550	1,250
Indirect Costs:			
Machine set Up Cost			462
Testing Cost			2,375
Engineering Cost			2,250
Total			16,037

Note: Direct Machining Costs represent the cost of machine capacity dedicated to the production of each product. These costs are fixed and are not expected to vary over long-run horizon.

Additional information is as follows:-

Particulars	X	Y
Production Batch Size	1,000 units	500 units
Set up time per batch	30 hours	36 hours
Testing time per unit	5 hours	9 hours
Engineering Cost incurred on each product	₹8,40,000	₹14,10,000

A foreign Competitor has introduced product very similar to 'X'. To maintain the Company's share and profit, Compur Ltd. has to reduce the price to ₹86.25. The Company calls for a meeting and comes up with a proposal to change design of product 'X'. The expected effect of new design is as follows:

- **Direct material Cost is expected to decrease by ₹5 per unit.**
- **Labour Cost is expected to decrease by ₹2 per unit.**
- **Machine time is expected to decrease by 15 minutes, previously took 3 hours to produce 1 unit of 'X'. The machine will be dedicated to the production of new design.**
- **Set up time will be 28 hours for each set up.**
- **Time required for testing each unit will be reduced by 1 hour.**
- **Engineering Cost and Batch Size will be unchanged.**

Required:

(a) Company Management identifies that cost driver for Machine Set-Up Costs is 'set up hours used in batch setting' and for Testing Costs is 'testing time'. Engineering Costs are assigned to products by special study. Calculate the full cost per unit for 'X' and 'Y' using Activity-Based Costing.

(b) What is the Mark-up on full cost per unit of X?

(c) What is the Target Cost per unit for new design to maintain the same mark up percentage on full cost per unit as it had earlier? Assume cost per unit of cost drivers for the new design remains unchanged.

(d) Will the new design achieve the cost reduction target?

(e) As a Cost Auditor of the company list out the possible management actions that the Compur Ltd. should take regarding new design.

Solution:

a. Computation of Quantities of Cost drivers

Particulars	X	Y	Total
a. Quantity	1,00,000 units	50,000 units	
b. Batch Size	1,000 units	500 units	
c. Number of Batches (a ÷ b)	100 batches	100 batches	
d. Set Up Time per batch	30 hours	36 hours	
e. Total Set Up Time for production (c x d)	3,000 hours	3,600 hours	6,600 hours
f. Testing Time per unit	5 hours	9 hours	
g. Total Testing Time for production (a x f)	5,00,000 hours	4,50,000	9,50,000 hours

b. Computation of ABC Recovery Rates

Activity	Activity Cost Pool	Cost driver	Cost Driver Quantity	ABC Rate
Machine Set Up	₹4,62,000	Set Up Hours	6,600 set Up Hours	₹70 per hour
Testing	₹23,75,000	Testing Hours	9,50,000 Testing Hours	₹2.50 per hour

Note: Engineering Costs are assigned by special study. Hence ABC Rate is not Calculated.

c. Computation of Cost per unit using ABC system

Particulars	X	Y
Direct Costs:		
Direct Material	42,00,000 ÷ 1,00,000 = 42.00	30,00,000 ÷ 50,000 = 60.00
Direct Labour	15,00,000 ÷ 1,00,000 = 15.00	10,00,000 ÷ 50,000 = 20,000
Direct Machining	7,00,000 ÷ 1,00,000 = 7.00	5,50,000 ÷ 50,000 = 11.00
Sub Total Direct Costs	64.00	91.00
Indirect Cost:		
Machine Set Up	(₹70 x 30hrs) ÷ 1,000 uts = 2.10	(₹70 x 36 hrs) ÷500 uts = 5.04
Testing	(₹2.5 ph x 5 hours) = 12.50	(₹2.5 ph x 9 hours) = 22.50
Engineering	8,40,000 ÷ 1,00,000 = 8.40	14,10,000 ÷ 50,000 = 28.20
Sub Total Indirect Costs	23.00	55.74
Total Costs	87.00	146.74

d. Markup (or) profit per unit of X = Selling price - Full Cost = ₹100.05 - ₹87.0 =₹13.05 p.u.
Percentage of Markup to full Cost = ₹13.05 ÷ ₹87 = 15% on Cost.

e. New Selling Price (given) = ₹86.25
Less: Target Profit at 15% on Cost i.e. 15/115 on SP = 86.25x15/115 = ₹11.25
Target Cost for New Design of X = ₹75.00

f. Computation of Cost per unit of New Design X

	Particulars	X
Direct Costs:	Direct Material	42.00 - 5.00 = 37.00
	Direct Labour	15.00 - 2.00 = 13.00
	Direct Machining (dedicated machine, hence time saved is not relevant, as the costs continue to be fixed)	7,00,000 ÷ 1,00,000=7.00
	Sub Total Direct Costs	57.00
Indirect Costs:	Machining Set Up (₹70 x 28 hours) ÷ 1,000 units	1.96
	Testing (₹2.5 ph x 4 hours)	9
	Engineering (8,40,000 ÷ 1,00,000 units)	8.40
	Sub Total Indirect Costs	20.36
	Total Estimated Costs of New Design X	77.36

Target cost is ₹75.00 only. Hence, the new design will not achieve the cost reduction target.

Note:
It is assumed that output of X will remain at 1,00,000 units, inspite of the reduction in machine time. To maintain 15% profit margin, probable SP of New Design X will be ₹77.36 + 15% = ₹88.96

g. Possible management actions for new design
(A) Value Engineering and Value Analysis to reduce the Direct Material Costs.
(B) Time and Motion Study in order to redefine the Direct Labour time and related costs.
(C) Exploring possibility of cost reduction in costs of Direct Machining.
(D) Identifying non-value added activities and eliminating them in order to reduce Overheads.
(E) Analysis of effect of sale of New Design X on sale of Y.
(F) Analysis of sensitivity of sale quantity of New Design X to price from ₹86.25 to ₹88.96.

(ii) As a manager of a financial service company, you have received a proposal seeking a term loan, from a firm that is planning an investment in a Fixed Asset of ₹800 lakhs, in a new project. The loan is indicated to be repayable in three annual installment commencing from the end of the 2nd year. The following information concerning the project is available:

	₹ in lakhs			
	Year 1	**Year 2**	**Year 3**	**Year 4**
Gross Profit [before depreciation]	**150**	**200**	**300**	**300**
Depreciation	**100**	**90**	**80**	**70**
Interest on Term Loan	**50**	**90**	**60**	**30**
Working Capital borrowing	**12**	**18**	**24**	**24**
Provision for Tax	**-**	**-**	**20**	**60**

Assuming other techno-economic criteria to be satisfactory, you are required to:

a. **Compute any three Ratios which, in your opinion, would guide the financial decision.**

b. Interpret briefly such ratio and give views on the proposal.

Solution:

(a) (I) Return on Investment = $\frac{\text{Net Profit before Interest \& Tax}}{\text{Capital Employed}} \times 100$

Calculation of Net Profit before Interest & Tax

	₹ in lakhs			
	Year 1	Year 2	Year 3	Year 4
Gross Profit [before depreciation]	150	200	300	300
Depreciation	100	90	80	70
Interest on Term Loan	50	90	60	30
Profit before tax	Nil	20	160	200
Provision for Tax	-	-	20	60
Profit after tax (PAT)	Nil	20	140	140
Add: Interest on term loan	50	90	60	30
Add: Provision for tax	-	-	20	60
Net Profit before Interest & Tax	50	110	220	230
Less: Working Capital borrowing	12	18	24	24
	38	92	196	206

Average return on Investment (before tax) = (38 + 92 + 196 + 206)/ 4 = 133

∴ Return on Investment (before tax) = $\frac{133}{800} \times 100 = 16.63\%$

Average return on Investment (before tax) = [(38 + 92 + (196 + 20) + (206 + 60)]/ 4 = 153

∴ Return on Investment (After tax) = $\frac{153}{800} \times 100 = 19.13\%$

Comments -

It indicates the rate of return earned by an enterprise from its total Capital employed in the business. It is also an indicator of the profit earning capacity of an enterprise. A higher return reveals a better profitability on the Capital Employed in the business.

(II) Debt Service Coverage Ratio = $\frac{\text{Earning for Debt Service}}{\text{Interest + Installment}}$

Earning for Debt Service = Net profit after Taxation + Interest on Debt Funds + Non-Cash Operating Expenses

	₹ in lakhs			
	Year 1	Year 2	Year 3	Year 4
Profit after tax (PAT)	Nil	20	140	140
Add: Interest on term loan	50	90	60	30
Add: Depreciation	100	90	80	70
Net Profit before Interest & Depreciation but	150	200	280	240

after tax				
Interest + Installment	50	356.67	326.67	296.66
Debt Service Coverage Ratio	3.00	0.56	0.86	0.81

Comments –

It indicates extent of current earnings available for meeting commitments of interest and installment. Ideal ratio must be between 2 to 3 times.

(III) Interest Coverage ratio = $\frac{\text{EBIT}}{\text{Interest Expenses}}$

	₹ in lakhs			
	Year 1	Year 2	Year 3	Year 4
Profit after tax (PAT)	Nil	20	140	140
Add: Interest on term loan	50	90	60	30
Add: Tax	-	-	20	60
EBIT	50	110	220	230
Less: WC borrowing	12	18	24	24
EBIT after WC borrowing	38	92	196	206
Interest Expenses	50	90	60	30
Interest Coverage ratio	0.76	1.02	3.27	6.87

Comments –

(a) It indicates ability to meet interest obligation of the current year, should generally be greater than 1.

(b) The project will not earn a satisfactory ROI and the term-loan borrowing will seriously create a liquidity problem of the firm.

Question 29:

(i) Extract Balance sheets for 2014 and 2015 and an income statement for 2015 of Sipow Inc. are shown below: The extract balance sheets and income statement were prepared using the LIFO inventory cost flow method. Calculate & analysis current ratio, inventory turnover, long term debt to equity ratio and operating profit margin for 2015 for LIFO and FIFO inventory valuation methods.

Balance Sheet of Sipow Inc.	**2015**	**2014**
Assets	**₹**	**₹**
Cash	**105**	**95**
Receivables	**205**	**195**
Inventories	**310**	**290**
Total current assets	**620**	**580**

Gross property, plant, and equipment	1,800	1,700
Accumulated depreciation	360	340
Net property, plant, and equipment	1,440	1,360
Total assets	2,060	1,940
Liabilities and equity	₹	₹
Payables	110	90
Short-term debt	160	140
Current portion of long-term debt	55	45
Current liabilities	325	275
Long-term debt	610	690
Deferred taxes	105	95
Common stock	300	300
Additional paid in capital	400	400
Retained earnings	320	180
shareholders' equity	1,020	880
Total liabilities and equity	2,060	1,940

Income Statement	
Year	2015 (₹)
Sales	4,000
Cost of goods sold	3,000
Gross profit	1,000
Operating profit	350
Interest expense	50
Earnings before taxes	300
Taxes	100
Net income	200
Dividends	60

Additional Information:

The company uses the LIFO inventory cost flow assumption to account for inventories. As compared to FIFO, inventories would have been ₹100 higher in 2015 and ₹90 higher in 2014.

Solution:

<u>Under LIFO Method</u>

(a) Current ratio = $\frac{\text{Current Assets (CAs)}}{\text{Current Liabilities (CLs)}}$

For 2015 = $\frac{620}{325}$ = 1.91 (approx.)

For 2014 = $\frac{580}{275}$ = 2.11 (approx.)

Comments:

This ratio indicates whether an enterprise possesses sufficient Current Assets to pay off its Current liabilities. This ratio is an indicator of short term solvency or liquidity position of an enterprise. Ideal ratio is 2:1 i.e., the enterprise should have twice the Current Assets than the Current liabilities, to exhibit ideal short term solvency position.

(b) Inventory turnover ratio = $\frac{\text{Cost of goods sold}}{\text{Average stock}}$

Average Stock = $\frac{\text{Opening stock} + \text{Closing stock}}{2}$

Average stock = $\frac{310 + 290}{2}$ = 300

For 2015:

Inventory turnover ratio = $\frac{3,000}{300}$ = 10 times

For 2014:

Data relating to Cost of goods sold not available, it is not possible to calculate the turnover ratio for the same year.

Comments:

This ratio indicates the movement of stock during a particular period. In other words, it indicates how fast goods are sold out from the stock of those goods. Higher ratio indicates a faster movement of stock.

(c) Long term debt to equity ratio = $\frac{\text{Long term debt}}{\text{Equity}}$

For 2015 = $\frac{610}{1,020}$ = 0.60 (approx.)

For 2014 = $\frac{690}{880}$ = 0.78 (approx.)

Equity = Common Stock + Additional paid in capital + Retained earning

For 2015 = 300 + 400 + 320 = 1,020

For 2014 = 300 + 400 + 180 = 880

Comments:

This ration indicates the proportion of Debt Capital and Owners' Capital included in the Capital structure. This is an indicator of the Capital Structure of an enterprise. It also shows the efficiency of the management in financial planning. Ideal ratio is 1:2, i.e., an enterprise should have twice their own capital than the debt capital.

(d) Operating profit margin ratio = $\frac{\text{Operating Profit}}{\text{Net sales}} \times 100$

For 2015= $\frac{350}{4,000} \times 100$ = 8.75%

For 2014: Data relating to Operating Profit & Net sales not available, it is not possible to find out the ratio for the same year.

Comments:

Normally, this ratio is expressed as a percentage.

This ratio indicates the operating profitability of an enterprise. By means of Operating Ratio, the amount and rate of profit earned by an enterprise from its operating / trading activity can be known. Higher Ratio exhibits a better operating profitability position of the enterprise.

Common Stock:

A security that represents ownership in a corporation. Holders of common stock exercise control by electing a board of directors and voting on corporate policy. Common stockholders are on the bottom of the priority ladder for ownership structure. In the event of liquidation, common shareholders have rights to a company's assets only after bond holders, preferred shareholders and other debt holders have been paid in full.

Under FIFO Method

Computation of revised figures due to change in valuation of closing or opening inventories

Revised Cost of Goods sold = 3,000 + (90-100) = 2,990

Revised Operating Profit = 350 – 90 -100 = 360

Net Income = 360 -50 -100 = 210 [ignore tax effect for stock valuation under LIFO]

Revised total Current Assets:

For 2015 = 620 + 100 = 720

For 2014 = 580 + 90 = 670

Revised shareholders' Equity:

For 2015 = 300 + 400 +320 +(90 +10) = 1,120

For 2014 = 300 + 400 +180 +90 = 970

(a) Current ratio = $\frac{\text{Current Assets (CAs)}}{\text{Current Liabilities (CLs)}}$

For 2015 = $\frac{720}{325}$ = 2.21 (approx.)

For 2014 = $\frac{670}{275}$ = 2.44 (approx.)

(b) Inventory turnover ratio = $\frac{\text{Cost of goods sold}}{\text{Average stock}}$

Average Stock = $\frac{\text{Opening stock + Closing stock}}{2}$

For 2015:

Average stock = $\frac{400 + 390}{2}$ = 395

Inventory turnover ratio = $\frac{2,990}{395}$ = 7.57 times

For 2014:

Data relating to Cost of goods sold not available, it is not possible to calculate the turnover ratio for the same year.

(c) Long term debt to equity ratio = $\frac{\text{Long term debt}}{\text{Equity}}$

For 2015 = $\frac{610}{1,120}$ = 0.54 (approx.)

For 2014 = $\frac{690}{970}$ = 0.71 (approx.)

Equity = Common Stock + Additional paid in capital + Retained earning

For 2015 = 300 + 400 + 320 +100 = 1,120

For 2014 = 300 + 400 + 180 +90 = 970

(d) Operating profit margin ratio = $\frac{\text{Operating Profit}}{\text{Net sales}} \times 100$

For 2015= $\frac{360}{4,000} \times 100 = 9.00\%$

For 2014:

Data relating to Operating Profit & Net sales not available, it is not possible to find out the ratio for the same year.

(ii) AZ Transport Group plc comprises three divisions AZ Buses, AZ Taxis and Maintenance.

AZ Buses operates a fleet of eight vehicles on four different routes. Each vehicle has a capacity of 30 passengers. There are two vehicles assigned to each route, and each vehicle completes five return journeys per day, for six days each week, for 52 weeks per year.

AZ Buses is considering its plans for year ending 31 December. Data in respect of each route is as follows:

		Route W	Route X	Route Y	Route Z
Return travel distance	**(km)**	**42**	**36**	**44**	**38**
Average number of passengers per trip					
Adults		**15**	**10**	**25**	**20**
Children		**10**	**8**	**5**	**10**
Return journey fares per trip (₹)					
Adults		**3.00**	**6.00**	**4.50**	**2.20**
Children		**1.50**	**3.00**	**2.25**	**1.10**

The following cost estimates have been made for AZ Buses	**₹**
Fuel and repairs per kilometre	**0.1875**
Drivers wages per vehicle per work-day	**120**
Vehicle fixed cost per vehicle per annum	**2,000**
General fixed cost per annum	**3,00,000**

Required:

1 **Prepare a statement showing the planned contribution of each route and the total contribution and profit of the AZ Buses division for the year ending 31 December.**

2 **Assuming no change in the child fare, calculate the effect on the contribution of route W of increasing the adult fare to ₹3.75 per return journey if this reduces the number of adult passengers using this route by 20% and assuming that the ratio of adult to child passengers remains the same. Recommend whether or not AZ Buses should amend the adult fare on route W.**

The Maintenance division comprises two fitters who are each paid an annual salary of ₹15,808, and a transport supervisor who is paid an annual salary of ₹24,000.

The work of the Maintenance division is to repair and service the buses of the AZ Buses division and the taxis of the AZ Taxis division. In total there are eight buses and six taxis which need to be maintained. Each vehicle requires routine servicing on a regular basis on completion of 4,000 kilometres and every two months each vehicle is fully tested for safety.

The annual distance travelled by each taxi in the fleet is 1,28,000 kilometres.

The projected material costs associated with each service and safety check are ₹100 and ₹75 respectively. The directors of AZ Transport Group plc are concerned over the efficiency and cost of its own Maintenance division and have decided to employ an additional new employee at an annual salary of ₹20,000 to improve overall efficiency.

The company has also invited its local garage to tender for the Maintenance contract for its fleet and the quotation / received was for ₹ 90,000 per annum including parts and labour.

If the Maintenance division is closed down the two fitters are made redundant with a redundancy payment of 6 months' salary to each fitter. The transport supervisor will be retained at the same salary but will be redeployed elsewhere in the Group where his services can be used.

Required:

a. Calculate the cost of the existing Maintenance function.

b. Analyse & advise whether to award the Maintenance contract to the local garage on financial grounds.

Solution:

Computation of Contribution and Profit

	₹	Route W	Route X	Route Y	Route Z	Total
1	Revenue from adults per trip	45.00	60.00	112.50	44.00	
2	Revenue from children per trip	15.00	24.00	11.25	11.00	
	Total Revenues per bus per trip	60.00	84.00	123.75	55.00	
3	Variable costs for fuel & repairs per trip	7.875	6.75	8.25	7.125	
	Contribution from buses per trip	52.125	77.25	115.50	47.875	
4	Total contribution from buses	1,62,630	2,41,020	3,60,360	1,49,370	
5	Specific fixed costs on wages	74,880	74,880	74,880	74,880	74,880
6	Specific fixed costs on vehicles	4,000	4,000	4,000	4,000	4,000
	Contribution from routes	83,750	1,62,140	2,81,480	70,490	5,97,860
	General administration					3,00,000
	Net profit					2,97,860

Notes	
1	Revenue from adults per trip
	For Route W = 15 x 3 = 45
	For Route X = 10 x 6 = 60
	For Route Y = 25 x 4.5 = 112.5

	For Route Z = 20 x 2.20 = 44
2	Revenue from children per trip
	For Route W = 10 x 1.5 = 15
	For Route X = 8 x 3 = 24
	For Route Y = 5 x 2.25 = 11.25
	For Route Z = 10 x 1.10 = 11
3	Variable costs on fuel and repairs per trip
	For Route W = 42 x 0.1875 = 7.875
	For Route X = 36 x 0.1875 = 6.75
	For Route Y = 44 x 0.1875 = 8.25
	For Route Z = 38 x 0.1875 = 7.125
4	Total no of trips in a year = 2 x 5 x 6 x 52 = 3120 bus trip per route.
	Total contribution from buses
	For Route W = 3120 x 52.125 = 1,62,630
	For Route X = 3120 x 77.25 = 2,41,020
	For Route Y = 3120 x 115.50 = 3,60,360
	For Route Z = 3120 x 47.875 = 1,49,370
5	Specific fixed costs on wages = 2 x 120 x 6 x 52 = 74,880
6	Specific fixed costs on vehicles = 2 x 2,000 = 4,000

Relevant differential costs for Route W

	₹	Adults	Children	Total
1	Existing revenue per trip	45	15	60
2	Revised revenue per trip	45	12	57
	Net gain or loss			- 3

Notes	
1	Existing revenue per trip for adults = 3 x 15 = 45
	Existing revenue per trip for children = 1.5 x 10 = 15
2	Revised revenue per trip for adults = 3.75 x 15 x 0.8 = 45
	Revised revenue per trip for children = 1.5 x 10 x 0.8 = 12

Annual cost of maintenance function

	₹	₹	₹
	Salaries		
	Paid to fitters (2 x 15,808)	31,616	
	Paid to supervisor	24,000	55,616
	Material costs		
1	Bus servicing	12,480	
2	Taxi servicing	19,200	
	Bus safety checks (6 x 75 x 8)	3,600	
	Taxi safety checks (6 x 75 x 6)	2,700	37,980
	Total annual costs		93,596

Notes	
	Total distance travelled by buses per trip = 42 + 36 + 44 + 38 = 160
	Total distance travelled by all buses =160 x 3,120 = 4,99,200
1	Bus servicing costs = 4,99,200 x $\frac{100}{4,000}$ = 12,480
	Total distance travelled by all taxis = 1,28,000 x 6 = 7,68,000

2	Taxi servicing costs = $7,68,000 \times \frac{100}{4,000} = 19,200$

Relevant costs for keeping or outsourcing maintenance function

		Keep	Outsource
	Annual operating costs	93,596	
	Cost of new employee	20,000	
	Cost of contract		90,000
	Redundancy cost for fitters for the first year		15,808
	Total relevant costs	1,13,596	1,05,808

Decision

Outsource the maintenance function

Savings in the first year = 1,13,596 – 1,05,808 = 7,788

Savings in subsequent years = 7,788 + 15,808 = 23,596

Question 30:

(i) In a meeting held at Malaysia towards the end of 2015, the Directors of HTML Inc. have taken a decision to diversify. At present HTML Inc. sells all finished goods from its own warehouse. The company issued debentures on 01.01.2015 and purchased fixed assets on the same day. The purchase prices have remained stable during the concerned period. Following information is provided to you:

Income Statements

	2014 (₹)		2015 (₹)	
Cash Sales	**30,000**		**32,000**	
Credit Sales	**2,70,000**	**3,00,000**	**3,42,000**	**3, 74,000**
Less: Cost of goods sold		**2,36,000**		**2,98,000**
Gross Profit		**64,000**		**76,000**
Less: Expenses				
Warehousing	**13,000**		**14,000**	
Transport	**6,000**		**10,000**	
Administrative	**19,000**		**19,000**	
Selling	**11,000**		**14,000**	
Interest on Debenture	**-**	**49,000**	**2,000**	**59,000**
Net Profit		**15,000**		**17,000**

Balance Sheet

	2014 (₹)		2015 (₹)	
Fixed Assets (Net Block)	**-**	**30,000**	**-**	**40,000**
Debtors	**50,000**		**82,000**	
Cash at Bank	**10,000**		**7,000**	
Stock	**60,000**		**94,000**	
Total Current Assets (CA)	**1,20,000**		**1,83,000**	

Creditors	**50,000**		**76,000**	
Total Current Liabilities (CL)	**50,000**		**76,000**	
Working Capital (CA - CL)		**70,000**		**1,07,000**
Total Assets		**1,00,000**		**1,47,000**
Represented by:				
Share Capital		**75,000**		**75,000**
Reserve and Surplus		**25,000**		**42,000**
Debentures		**-**		**30,000**
Total Liabilities		**1,00,000**		**1,47,000**

Assume opening stock of ₹40,000 for the year 2014. You are required to calculate & analyse the following ratios for the years 2014 and 2015.

(a) Gross Profit Margin Ratio

(b) Operating Profit Ratio

(c) Stock turnover ratio
(d) Profitability ratio

Solution:

(a) Gross Profit Margin ratio = $\frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$

For 2014 = $\frac{64,000}{3,00,000} \times 100 = 21.33\%$ (approx.)

For 2015 = $\frac{76,000}{3,74,000} \times 100 = 20.32\%$ (approx.)

(b) Operating Profit ratio = $\frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$

For 2014 = $\frac{15,000}{3,00,000} \times 100 = 5\%$

For 2015 = $\frac{19,000}{3,74,000} \times 100 = 5.08\%$

[Operating profit (i.e., EBIT) = Net profit before Interest and Tax + Non-Operating Expenses debited to P/L A/c – Non-Operating incomes credited to P/L A/c.
For 2014 = 15,000
For 2015 = 17,000 + 2,000 (Interest) = 19,000]

(c) Stock turnover ratio = $\frac{\text{Cost of goods sold}}{\text{Average stock}}$

Average Stock = $\frac{\text{Opening stock} + \text{Closing stock}}{2}$

For 2014 = $\frac{40,000 + 60,000}{2}$ = 50,000

For 2015 = $\frac{60,000 + 94,000}{2}$ = 77,000

Stock turnover ratio =

For 2014 = $\frac{2,36,000}{50,000}$ = 4.72 times

For 2015 = $\frac{2,98,000}{77,000}$ = 3.87 times

(d) Profitability ratio – Owners point of view

(a) Return on Capital Employed (ROCE) = $\frac{\text{Total Earning}}{\text{Capital Employed}}$

Total Earning = Profit after Taxation + Interest on Debt Funds + Non –Operating Adjustments

(Ignore the effect of tax)

For 2014 = Total Earning = 15,000

For 2015 = Total Earning = 17,000 +2,000 (Interest) = 19,000

Capital Employed = Fixed Assets + Net Working Capital

For 2014 = 30,000 + 70,000 = 1,00,000

For 2015 = 40,000 + 1,07,000 = 1,47,000

Return on Capital Employed

For 2014 = $\frac{15,000}{1,00,000}$ x 100 = 15%

For 2015 = $\frac{19,000}{1,47,000}$ x 100 = 12.92%

(I) Return on Equity or Return on Net Worth = $\frac{\text{Equity Earnings}}{\text{Shareholders' funds}}$

Equity Earning = Profit after taxation
For 2014 = 15,000 (Ignore tax impact)
For 2015 = 17,000

Shareholders' Funds = Net Fixed Assets + Net working Capital – External liabilities (Long term)

For 2014 = 30,000 + 70,000 = 1,00,000

For 2015 = 40,000 + 1,07,000 – 30,000 = 1,17,000

∴ Return on Return on Equity or Return on Net Worth

For 2014 = $\frac{15,000}{1,00,000}$ x 100 = 15%

For 2015 = $\frac{17,000}{1,17,000}$ x 100 = 14.53%

(II) Return on Assets (ROA) = $\frac{\text{Net Profits after Taxes}}{\text{Average Total Assets}}$ x 100

(Ignore impact of tax)

Average Total Assets = ½ of (Opening Fixed Assets + Closing Fixed Assets)

For 2014 = $\frac{15,000}{1/2\,(30,000+30,000)}$ x 100 = 50%

For 2015 = $\frac{17,000}{1/2\,(40,000+40,000)}$ x 100 = 42.50%

(ii) The following is the abridged Balance Sheet of BRL Batteries Ltd:

	₹ in lacs	
	31.3.2015	**31.3.2014**
Liabilities:		
Share Capital	**450**	**450**
Debenture Redemption Reserve	**25**	**30**
Capital subsidy from State Government	**30**	**30**
Revaluation Reserve	**125**	**140**
General Reserve	**160**	**120**
Balance in Profit and Loss A/c	**48**	**32**
Secured Loans	**275**	**295**
Unsecured Loans	**123**	**117**
	1236	**1214**
Assets:		
Gross Block	**725**	**680**
Accumulated Depreciation	**(315)**	**(290)**
Capital WIP	**43**	**37**
Investments	**165**	**165**
Current Assets:		
Inventories	**417**	**441**
Sundry Debtors	**182**	**195**
Advances for Capital Equipment	**24**	**17**
Other Loans & Advances	**144**	**137**
Cash and Bank Balances	**21**	**19**
Current Liabilities:		
Sundry Creditors		
For Capital Expenses	**(17)**	**(21)**
For others	**(185)**	**(197)**
Provision for Taxes	**(64)**	**(71)**
Misc. Expenses	**96**	**102**

Total	**1236**	**1214**

Notes:

(i) Fixed Assets include Goodwill and Patents ₹122 lacs (Previous year ₹137 lacs)

(ii) Term loans due for repayment within 12 months are ₹96 lacs (Previous year ₹ 84 lacs)

Calculate & analyse the following for the company as a whole:

(i) Capital Employed for the year ended 31.3.15

(ii) Net worth as on 31.3.14 and 31.3.15

(iii) Debt/ Equity Ratio as on 31.3.2015

Solution:

Capital Employed: (₹ in lakhs)

	31.3.15	31.3.14
Gross Block	725	680
Less: Depreciation	315	290
Net Block	410	390
Less: Goodwill & Patents	122	137
Net Fixed Assets	288	253
Current Assets:		
Inventories	417	441
Sundry Debtors	182	195
Advance for Capital Equipment	24	17
Other Loans & Advances	144	137
Cash and Bank Balances	21	19
(A)	788	809
Current Liabilities		
Term loan due for repayment within 12 months	96	84
Sundry Creditors		
- For Capital	17	21
- For others	185	197
Provision for Taxes	64	71
(B)	362	373
Working capital (A - B)	426	436
Capital Employed (Net Fixed Assets + Working Capital)	714	689

Capital Employed = (714 + 689)/2 = 701.50 lacs.

(ii) Net worth:

	₹ in lacs 31.3.15	₹ in lacs 31.3.14
Share Capital	450	450
General Reserve (including Debenture Redemption Reserve)	185	150

Capital subsidy from State Government	30	30
Balance in P&L A/c	48	32
	713	662
Less: Intangible Assets	122	137
Less: Capital WIP	43	37
Less: Misc. Expenditure	96	102
Net worth	452	386

(iii) Debt- Equity Ratio:

	31.3.15	31.3.14
Debt		
Debt (Secured & Unsecured Loans)	398	412
Less: Due in 12 months	96	84
Long term debt	302	328
Equity		
Share Capital	450	450
General reserve	160	120
Debenture Redemption Reserve	25	30
Balance in Profit and Loss A/c	48	32
Capital subsidy from State Government	30	30
Less: Misc. Expenses	(96)	(102)
	617	560
Debt Equity Ratio	0.49:1	0.59:1

Note:

(i) There is no existing liability towards Debenture-holder of the Company. So, balance in Debenture Redemption Reserve Account is treated as part of Reserve & Surplus.

(ii) As per Accounting Standard 12 "Accounting for Government Grants" under Capital approach – Grant is treated as part of Shareholder's Funds. So, Capital subsidy is taken for the calculation of Capital Employed and for the calculation of Net Worth.