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M. Com. Part-II

Semester-IV :

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MEMBERS OF B.O.S. IN ACCOUNTANCY

Preface

It gives me immense pleasure to bring forward this self learning material (SLM) for Advanced Accountancy Paper XIV for the students of M. Com. II. As per the order and guidelines of the Government of Maharashtra, National Education Policy 2020 is implemented for all the post graduate programmes of Shivaji University from the Academic Year 2023-24. Continuing the implementation of NEP 2020 for the academic year 2024-25, syllabus of various papers under various major courses for M. Com. II are set considering the guidelines given in the NEP Document and Government Resolution in this regard and introduced from June 2024.

The subject Advanced Accountancy occupies an important place in the content of Commerce and Management Education. Its importance has been arduously recognised by all types of business organisations in private and public sector and even, non-business organisations. Considering the need of the hour some units were need to be accommodated in the curriculum of the Accountancy. Accordingly, the Board of Studies in Accountancy drafted the syllabus of the subject incorporating Environmental Accounting, Voyage and Investment Accounting, Value Added and Underwriters' Accounts. This book brings out theoretical and practical knowledge in these areas.

The main feature of this SLM is that, it provides sufficient theoretical knowledge of each unit included in this paper and also provides sufficient number of illustrations of practical problems in the units having practical aspects. Problems are illustrated considering the nature of question paper and arranged in logical sequence. Solutions to the problems are given in details, explaining all the aspects of the problems. Working notes are also attached to facilitate the understanding and grasping by the students.

I am thankful to all the authors who have contributed to this SLM. I strongly appreciate the sincere efforts taken by the authors to enrich the quality of the concerned units. Because, this course is firstly introduced in the syllabus of the M. Com. Programme. I express my deep sense of gratitude to Hon. Vice Chancellor Prof. (Dr.) D. T. Shirke, Hon. Pro-Vice Chancellor Prof. (Dr.) P. S. Patil, Hon. Dean of the Faculty of Commerce and Management Prof. (Dr.) S. S. Mahajan and Registrar Dr. V. N. Shinde for their supreme support, guidance and encouragement. I especially thanks to the Director, Distance and Online Education Centre for his keen interest in developing quality study material, cooperation and assistance to produce the learning material. I am also thankful to Dr. Sushant Mane, Mrs. Kapade and other concerned staff of CDOE who worked continuously for preparation and publication of this learning material.

All your suggestions will be welcomed for the further improvement of the book.

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Advanced Accountancy Paper-XIV
M. Com. II

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M. Com Part-II

Semester IV

ADVANCED ACCOUNTANCY PAPER-XIV

INDEX

Each Unit begins with the section objectives -

Objectives are directive and indicative of :

1. what has been presented in the unit and
2. what is expected from you
3. what you are expected to know pertaining to the specific unit, once you have completed working on the unit.

The self check exercises with possible answers will help you understand the unit in the right perspective. Go through the possible answers only after you write your answers. These exercises are not to be submitted to us for evaluation. They have been provided to you as study tools to keep you in the right track as you study the unit.

Dear Students

The SIM is simply a supporting material for the study of this paper. It is also advised to see the new syllabus 2024-25 and study the reference books & other related material for the detailed study of the paper.

Unit-1

Environmental Accounting

Index :

1.0 Objectives:

After Studying this unit, students shall be able -

1. To Understand the concept of Environment and Environmental Accounting
2. To Explain the Importance and evolution of Environmental Accounting
3. To Find the Areas of Environmental Accounting: National and Corporate Perspectives.

1.1 Introduction to the Environment:

The environment includes all the living and non-living elements that make up the natural world, including air, water, soil, plants, animals, and ecosystems. It is the complex web of interactions between these elements that sustain life on Earth. The environment provides essential resources such as food, clean water, shelter, and raw materials, which are vital for human survival and development. As society continues to grow and industrialize, understanding and protecting the environment has become increasingly important. Environmental issues, including pollution, climate change, and habitat destruction, pose significant challenges that require collective action and sustainable practices to ensure the health and well-being of the planet and future generations.

1.2 Presentation of the Subject Matter:

1.2.1 Meaning of Environment

The environment refers to the surrounding conditions and elements that support life on Earth. It includes both living components, such as plants, animals, and humans, and non-living components, such as air, water, soil, and minerals. The environment encompasses ecosystems, which are communities of living organisms interacting with each other and their physical surroundings. It plays a crucial role in providing essential resources—like food, clean water, and shelter—and maintaining the balance necessary for life. Overall, the environment is vital for the well-being of all living beings and the planet as a whole.

Environment refers to the totality of external conditions and factors that influence the existence, development, and survival of living organisms. It includes both the **natural environment** and the **built environment**:

1. **Natural Environment**: This includes all living (biotic) and non-living (abiotic) components of the Earth, such as:
    - **Air**: The atmosphere that provides oxygen and regulates temperature.
    - **Water**: Rivers, lakes, oceans, and groundwater that support life and ecosystems.
    - **Soil**: The upper layer of the Earth that contains organic matter, minerals, and supports plant growth.
    - **Plants and Animals**: Various species that inhabit different ecosystems, contributing to biodiversity and ecological balance.
2. **Built Environment:** This encompasses human-made structures and spaces, including:
    - **Buildings**: Homes, offices, schools, and other structures where people live and work.
    - **Infrastructure**: Roads, bridges, and transportation systems that connect communities.
    - **Urban Areas**: Cities and towns where a significant portion of the human population resides.

1.2.2 Introduction to Pollution and Environmental Degradation

Pollution and environmental degradation are pressing global issues that pose significant threats to human health, ecosystems, and the overall quality of life on Earth.

- **Pollution** refers to the introduction of harmful substances or contaminants into the natural environment, leading to adverse effects. It can take many forms, including air pollution, water pollution, soil contamination, and noise pollution. Common pollutants include chemicals from industrial processes, waste products, heavy metals, plastics, and emissions from vehicles. These pollutants can have serious health consequences for humans and wildlife, disrupt ecosystems, and contribute to climate change.
- **Environmental degradation**, on the other hand, is the deterioration of the environment through the depletion of resources, destruction of ecosystems, and

loss of biodiversity. It often results from human activities such as deforestation, urbanization, overfishing, and unsustainable agricultural practices. This degradation can lead to habitat loss, soil erosion, water scarcity, and the extinction of plant and animal species, significantly impacting the planet's ability to support life.

Together, pollution and environmental degradation threaten the delicate balance of our ecosystems and challenge the sustainability of natural resources. Addressing these issues requires collective action, responsible management of resources, and a commitment to sustainable practices to protect the environment for future generations.

Meaning of Pollution

Pollution is the introduction of harmful substances or contaminants into the natural environment, leading to adverse effects on living organisms, ecosystems, and the overall health of the planet. It can occur in various forms, including:

- **Air Pollution**: Contaminants in the atmosphere, such as smoke, dust, and gases (e.g., carbon monoxide, sulfur dioxide).
- **Water Pollution**: The contamination of water bodies (rivers, lakes, oceans) due to chemicals, waste, or pathogens.
- **Soil Pollution**: The degradation of soil quality due to hazardous waste, heavy metals, or pesticides.
- **Noise Pollution**: Unwanted or excessive sound that can disrupt human and animal life.
- **Light Pollution**: Excess artificial light that interferes with natural darkness, affecting wildlife and human health.

Pollution can result from various human activities, including industrial production, transportation, agricultural practices, and improper waste management, and it can lead to significant health and environmental problems.

Meaning of Environmental Degradation

Environmental Degradation refers to the deterioration of the natural environment through the depletion of resources, loss of biodiversity, and destruction of ecosystems. This degradation can be caused by:

- **Deforestation**: The removal of forests for agriculture, urban development, or logging, leading to habitat loss and reduced biodiversity.
- **Climate Change**: Changes in climate patterns due to human activities, primarily the burning of fossil fuels, which can cause extreme weather events, rising sea levels, and habitat changes.
- **Pollution**: As mentioned above, pollution contributes to environmental degradation by contaminating air, water, and soil, harming organisms, and disrupting ecosystems.
- **Overexploitation of Resources**: Unsustainable practices, such as overfishing, excessive mining, and depletion of freshwater sources, can lead to resource scarcity and ecosystem collapse.
- **Urbanization**: Rapid growth of cities can lead to habitat destruction, increased waste, and pollution.

Environmental degradation has profound implications for the health of ecosystems, the availability of natural resources, and the overall well-being of current and future generations.

1.2.3 Environmental awareness:

Environmental awareness refers to the understanding and knowledge of environmental issues, the impact of human activities on the natural world, and the importance of protecting the environment. It involves recognizing the interconnections between natural systems and human behavior, and how individual and collective actions can contribute to environmental health or degradation.

Environmental awareness include some important meanings:

1. **Understanding Environmental Issues**: This includes knowledge of problems such as pollution, climate change, deforestation, biodiversity loss, and resource depletion.
2. **Recognizing Impact**: Individuals become aware of how their actions—such as waste generation, energy consumption, and use of natural resources—affect the environment.

3. **Promoting Sustainable Practices**: Environmental awareness encourages people to adopt sustainable habits, such as recycling, conserving energy, reducing waste, and supporting eco-friendly products and practices.
4. **Advocacy and Action**: Increased awareness often leads to advocacy for environmental protection, participation in conservation efforts, and support for policies aimed at addressing environmental challenges.
5. **Education and Engagement**: Environmental awareness can be fostered through education, community programs, and campaigns that inform individuals and communities about environmental issues and encourage responsible behavior.

Overall, environmental awareness is crucial for fostering a sense of responsibility toward the planet, promoting sustainable development, and ensuring a healthy environment for current and future generations.

Benefits of Environmental Awareness

- **Improved Public Health**: Reducing pollution and promoting clean environments can lead to better health outcomes for communities.
- **Sustainable Development**: Increased awareness fosters practices that balance economic growth with environmental protection, ensuring resources for future generations.
- **Community Resilience**: Educated communities are better equipped to respond to environmental challenges and adapt to changes.
- **Informed Decision-Making**: Awareness leads to more responsible consumer choices and encourages individuals and businesses to adopt sustainable practices.

1.2.4 Introduction to Environmental Accounting

The concept of 'environment' encompasses a broad range of elements that influence and shape our surroundings. It is not limited to the natural world but extends to include various factors that contribute to the overall state of existence. When we think of the environment, we often picture the air we breathe, the land we inhabit, and the water that sustains us. However, the environment also includes the flora and fauna, such as animals and birds.

Beyond these natural elements, the environment also encompasses social and human dimensions, such as human welfare, social justice, health, and education. Without a supportive environment, neither living nor non-living things could thrive. The very foundation of economic development relies on the health and availability of environmental resources.

The environment provides crucial raw materials and inputs including soil, water, forests, minerals, and marine resources that are essential for production and economic progress. This relationship highlights the interconnectedness of the environment and economic activity. As the saying goes, "God created the environment, and the environment created business corporations."

The availability and management of key environmental and natural resources are vital in determining whether economic goals can be achieved, particularly in less developed countries. In essence, a well-maintained environment is fundamental to fostering economic development and ensuring a sustainable future.

Environmental accounting is a specialized field of accounting that focuses on incorporating environmental costs and benefits into financial decision-making and reporting. As businesses and organizations increasingly recognize the impact of their activities on the environment, environmental accounting provides a framework for assessing and managing those impacts. It aims to help organizations understand the economic consequences of environmental issues, facilitate compliance with regulations, and promote sustainable practices.

By integrating environmental factors into traditional accounting practices, organizations can make more informed decisions that reflect their true costs and contributions to sustainability. This not only enhances transparency but also enables stakeholders to evaluate an organization's environmental performance and its commitment to corporate social responsibility.

1.2.5 Meaning of Environmental Accounting

Environmental accounting sense can be understood as a routine process for the ordered measurement, recording, and disclosure of ecological expenses. Environmental accounting has ways to save the environment in a firm's reports and decision-making. It helps firms see the benefits of being eco-friendly. This type of accounting lets people know the impact of environmental choices on the firm's finances.

It helps make better decisions that follow the rules while also making money. Environmental Accounting is about holding track of money and how it affects the environment. It records and tells about money spent and made due to harm done to the environment. It has new policies to lower harm and buy better tools for the workplace.

A complete environmental accounting system has two parts. One part is regular accounting, which measures how the environment affects organizations. The other part is ecological accounting, which measures how organizations harm the environment using physical measurements.

Environmental accounting is a subset of accounting proper, its target being to incorporate both economic and environmental information. It can be conducted at the corporate level or at the level of a national economy through the System of Integrated Environmental and Economic Accounting, a satellite system to the National Accounts of Countries[1] (among other things, the National Accounts produce the estimates of gross domestic product otherwise known as GDP).

Environmental accounting is a field that identifies resource use, measures and communicates costs of a company's or national economic impact on the environment. Costs include costs to clean up or remediate contaminated sites, environmental fines, penalties and taxes, purchase of pollution prevention technologies and waste management costs.

An environmental accounting system consists of environmentally differentiated conventional accounting and ecological accounting. Environmentally differentiated accounting measures effects of the natural environment on a company in monetary terms. Ecological accounting measures the influence a company has on the environment, but in physical measurements.

Environmental Accounting refers to the process of identifying, measuring, and communicating the environmental costs and benefits associated with an organization's activities, products, and services. It encompasses various practices and methodologies aimed at capturing the financial implications of environmental factors, including:

1. **Cost Accounting:**

Cost accounting in environmental management means figuring out and tracking the money spent on activities that help protect the environment. This includes costs for things like:

- **Waste Disposal:** How much it costs to get rid of waste safely.
- **Pollution Control:** Expenses for reducing pollution, like buying cleaner technologies.
- **Resource Conservation:** Money spent on using resources more efficiently, such as energy-saving programs.

By understanding these costs, organizations can see how their environmental efforts affect their finances.

2. **Environmental Management Accounting (EMA)**

Environmental Management Accounting (EMA) is about collecting and analyzing information related to the environment to help organizations make better decisions. This means:

- **Gathering Data:** Collecting information on how much energy, water, or materials are used.
- **Cost Analysis:** Looking at how environmental efforts can save money and improve efficiency.
- **Improving Performance:** Using the information to find ways to reduce waste and be more environmentally friendly.

EMA helps organizations perform better environmentally while also saving money.

3. **Green Accounting**

Green accounting focuses on putting a value on natural resources and the services that ecosystems provide. This includes:

- **Valuing Natural Resources:** Estimating the worth of things like forests, water, and minerals.

- **Ecosystem Services:** Understanding the benefits we get from nature, like clean air and pollination.
- **Financial Statements:** Including this value in financial reports helps organizations see their impact on the environment.

This way, organizations can recognize how their activities affect nature and understand the financial risks or opportunities related to those impacts.

4. Sustainability Reporting

Sustainability reporting is the practice of sharing information about how an organization is performing environmentally. This includes:

- **Environmental Performance:** Reporting on how well the organization is doing in terms of reducing waste, using resources wisely, and lowering emissions.
- **Sustainability Initiatives:** Sharing details about projects or programs aimed at improving sustainability.
- **Guidelines:** Following standards set by groups like the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB) to ensure clear and consistent reporting.

5. Life Cycle Assessment

Life cycle assessment, or LCA, is a comprehensive and systematic technique to appraise a product's or service's ecological repercussions across its entire life cycle. It encompasses identifying and quantifying the environmental impacts emanating from all phases of a product or service, commencing from the inception of raw materials extraction to the ultimate disposal phase, and gauging their subsequent impact on the surrounding environment.

6. Carbon Foot printing

Carbon footprint analysis is a specialized form of Life Cycle Assessment (LCA) that quantifies the greenhouse gas discharges connected with a particular commodity or provision. It allows scrutinizing and distinguishing approaches for minimizing emissions and encourages more ecologically responsible methodologies.

7. **Environmental Performance Indicators**

Evaluating and reporting environmental performance relies on environmental performance indicators (EPIs). These indicators are crucial in monitoring and measuring advancements towards environmental objectives, evaluating the effectiveness of environmental management systems, and conveying the environmental performance to all stakeholders involved.

8. **Environmental Auditing:**

Environmental auditing is an intricate procedure of scrutinizing an establishment's ecological execution vis-à-vis established laws or guidelines. This systematic evaluation is instrumental in identifying potential areas for amelioration, assessing the effectiveness of environmental management systems, and gauging compliance with ecological protocols.

This transparency helps build trust with customers, investors, and the community, showing that the organization is committed to being environmentally responsible.

1.2.6 Importance of Environmental Accounting

Environmental accounting plays a crucial role in promoting sustainability and responsible management of resources within organizations. Here are some key points highlighting its importance:

1. **Enhanced Decision-Making**
   - **Informed Choices**: Environmental accounting provides critical data on the environmental costs and benefits associated with business operations, enabling managers to make informed decisions that balance profitability with sustainability.
   - **Resource Allocation**: By identifying areas where environmental costs can be reduced, organizations can allocate resources more effectively, improving overall efficiency.

2. **Cost Reduction**
   - **Identifying Inefficiencies**: Environmental accounting helps organizations pinpoint inefficiencies in resource usage and waste generation, leading to cost savings through improved processes and reduced waste.

- **Compliance Cost Management**: By understanding and managing environmental liabilities and compliance costs, organizations can avoid fines and reduce expenses related to regulatory compliance.

3. **Risk Management**

   - **Identifying Risks**: It enables organizations to identify environmental risks that may impact operations, reputation, and financial performance, allowing for proactive risk management strategies.
   - **Reputation Protection**: By demonstrating a commitment to environmental responsibility, organizations can mitigate reputational risks associated with environmental degradation and non-compliance.

4. **Regulatory Compliance**

   - **Meeting Standards**: Environmental accounting assists organizations in tracking their compliance with environmental laws and regulations, minimizing the risk of legal penalties and enhancing their standing with regulators.
   - **Sustainability Reporting**: It facilitates the preparation of sustainability reports that meet regulatory requirements and stakeholder expectations.

5. **Stakeholder Engagement**

   - **Transparency and Accountability**: Environmental accounting fosters transparency by providing stakeholders—such as investors, customers, and employees—with clear information about an organization's environmental performance and impacts.
   - **Enhanced Trust**: By openly reporting environmental performance and commitments, organizations can build trust and strengthen relationships with stakeholders, enhancing their brand reputation.

6. **Sustainable Development**

   - **Promoting Sustainable Practices**: Environmental accounting encourages organizations to adopt sustainable practices by highlighting the economic benefits of reducing environmental impacts and improving resource efficiency.

- **Long-Term Viability**: By integrating environmental considerations into financial planning, organizations can contribute to long-term sustainability and resilience in their operations.

7. **Support for Strategic Planning**
   - **Integrating Sustainability Goals**: Environmental accounting enables organizations to align their financial objectives with sustainability goals, supporting the development of strategic plans that prioritize both economic growth and environmental stewardship.
   - **Performance Measurement**: It provides a framework for measuring and reporting progress toward environmental targets, enabling organizations to adjust strategies as needed.

8. **Corporate Social Responsibility (CSR)**
   - **Demonstrating Commitment**: By incorporating environmental accounting into their practices, organizations can demonstrate a genuine commitment to corporate social responsibility, which is increasingly important to consumers and investors.
   - **Competitive Advantage**: Companies that prioritize environmental accounting can differentiate themselves in the market, attracting environmentally conscious customers and investors.

1.2.7 Evolution on environmental accounting:

Environmental accounting has evolved significantly over the years, driven by growing awareness of environmental issues, regulatory changes, and the need for businesses to assess their environmental impact. Here's an overview of its evolution:

1. **Early Concepts (1960s - 1970s)**
   - **Initial Awareness**: The environmental movement began gaining traction in the 1960s with publications like Rachel Carson's *Silent Spring*, raising awareness about pollution and environmental degradation.
   - **Basic Reporting**: Businesses started to recognize the need to account for environmental costs, but reporting was often minimal and focused mainly on compliance with regulations.

2. **Integration of Environmental Costs (1980s)**

   - **Environmental Legislation**: Increased regulations, such as the Clean Air Act and the Clean Water Act in the U.S., prompted companies to begin considering environmental costs more seriously.
   - **Cost-Benefit Analysis**: Businesses began to incorporate environmental costs into their financial analyses, using cost-benefit approaches to evaluate the impact of environmental decisions.

3. **Development of Environmental Management Systems (1990s)**

   - **ISO 14001**: The introduction of the ISO 14001 standard in 1996 provided a framework for organizations to manage their environmental responsibilities systematically.
   - **Triple Bottom Line**: The concept of the "triple bottom line" emerged, encouraging businesses to consider social, environmental, and financial impacts in their decision-making.

4. **Formalization and Standardization (2000s)**

   - **Sustainability Reporting**: Companies began producing sustainability reports, which provided a comprehensive overview of their environmental, social, and economic impacts.
   - **Global Reporting Initiative (GRI)**: The GRI developed guidelines for sustainability reporting, further standardizing how companies disclose their environmental performance.

5. **Integration with Financial Accounting (2010s)**

   - **Environmental Profit and Loss (EP&L) Accounts**: Some companies began developing EP&L accounts to quantify their environmental impact in monetary terms, integrating these findings into their overall financial statements.
   - **Regulatory Pressure**: Governments and regulatory bodies started requiring more transparent environmental reporting, compelling organizations to improve their environmental accounting practices.

6. **Technological Advancements and Data Analytics (2020s)**

- **Digital Tools**: The rise of digital technologies and big data analytics has enabled companies to track and report their environmental impacts more accurately and efficiently.
- **Climate Disclosure Standards**: Frameworks such as the Task Force on Climate-related Financial Disclosures (TCFD) have gained prominence, guiding companies on how to disclose climate-related risks and opportunities.

7. **Future Trends**

- **Circular Economy**: The concept of a circular economy is gaining traction, prompting businesses to rethink resource use and waste management in their accounting practices.
- **Integrated Reporting**: More companies are moving toward integrated reporting that combines financial and non-financial metrics, reflecting a holistic view of their performance.
- **Regulatory Developments**: As climate change becomes a more pressing issue, we can expect stricter regulations and guidelines, further shaping the landscape of environmental accounting.

1.2.8 Areas of Environmental Accounting: National and Corporate Perspectives:

Environmental accounting encompasses a range of practices and frameworks that organizations and governments can use to assess and report on their environmental impacts. The perspectives can differ significantly when viewed from a national angle versus a corporate viewpoint. Here's an overview of both angles:

1. **National Angle:**

- **Policy Development**: Environmental accounting at the national level is often used to inform policy decisions related to environmental protection, resource management, and sustainable development.
- **Resource Management**: It provides insights into the depletion of natural resources, helping governments implement effective resource management strategies.

Areas:

- **Natural Resource Accounting**: Governments assess the value of natural resources, including forests, water bodies, minerals, and biodiversity, to understand their contribution to the economy and the impact of their depletion.
- **Environmental Indicators**: National environmental accounts often include indicators such as carbon emissions, water usage, and pollution levels, which help track progress toward sustainability goals.
- **Cost-Benefit Analysis for Policies**: Environmental accounting helps evaluate the economic implications of environmental policies, such as carbon taxes or conservation programs, facilitating informed decision-making.
- **International Reporting**: Many countries are required to report on their environmental performance to international organizations, such as the United Nations, which requires standardized environmental accounting frameworks.

2. **Corporate Point of View:**
    - **Sustainability Reporting**: Corporations use environmental accounting to assess their environmental performance and report it to stakeholders, thereby enhancing transparency and accountability.
    - **Cost Management**: It helps businesses identify and manage environmental costs, leading to cost savings and improved operational efficiency.

Areas:

- **Environmental Management Accounting (EMA)**: Corporations implement EMA to track and manage environmental costs related to production processes, waste management, and compliance with regulations.
- **Sustainability Metrics**: Companies develop sustainability metrics that quantify their environmental impact, such as greenhouse gas emissions, water usage, waste generation, and energy consumption.
- **Lifecycle Analysis**: Many corporations conduct lifecycle assessments (LCA) to evaluate the environmental impacts of their products from raw material extraction to disposal, guiding product development and marketing strategies.

- **Integration into Financial Reporting**: Some organizations integrate environmental performance into their annual financial reports, reflecting the financial implications of environmental issues.

1.2.9 Major accounting issues relating to environment accounting

Environmental accounting, while essential for promoting sustainability and responsible resource management, faces several major accounting issues that can complicate its implementation and effectiveness. Here are some of the key challenges:

1. **Measurement and Valuation Challenges**
   - **Quantifying Environmental Costs**: Accurately measuring environmental costs can be difficult due to the complexity of determining the economic value of natural resources, ecosystem services, and pollution. This includes costs related to pollution control, waste management, and compliance with environmental regulations.
   - **Lack of Standardized Metrics**: There is no universally accepted standard for measuring and reporting environmental impacts. The absence of standardized metrics makes it challenging for organizations to compare their performance and for stakeholders to assess environmental accountability.
2. **Data Availability and Quality**
   - **Inadequate Data**: Many organizations struggle to collect comprehensive and reliable data on their environmental impacts. This can be due to limited resources, lack of appropriate data collection systems, or insufficient staff training.
   - **Data Consistency**: Ensuring consistency in data collection and reporting across different departments and over time can be challenging, making it difficult to track progress and make informed decisions.
3. **Integration with Financial Accounting**
   - **Incorporating Environmental Costs**: Integrating environmental costs into traditional financial accounting systems can be complex. Organizations

often have difficulty allocating environmental costs appropriately within their financial statements.

- **Balancing Short-term and Long-term Goals**: Environmental accounting requires organizations to consider long-term environmental impacts and costs, which may conflict with short-term financial goals and reporting practices.

4. **Regulatory and Compliance Issues**

- **Evolving Regulations**: Environmental regulations are constantly changing, and organizations must stay updated to ensure compliance. This can create challenges in maintaining accurate and relevant environmental accounting practices.
- **Regulatory Reporting Requirements**: Different jurisdictions may have varying reporting requirements, complicating compliance and the standardization of environmental accounting practices across different regions.

5. **Stakeholder Expectations**

- **Increased Demand for Transparency**: Stakeholders, including investors, customers, and regulators, are increasingly demanding transparency in environmental performance. Organizations may struggle to meet these expectations if their accounting practices are not robust or well-defined.
- **Risk of Green washing**: There is a risk that companies may exaggerate their environmental efforts or present misleading information in their sustainability reports, leading to distrust among stakeholders.

6. **Cost Implications**

- **Implementation Costs**: Establishing effective environmental accounting practices can require significant investment in systems, training, and processes, which may be a barrier for smaller organizations.
- **Opportunity Costs**: Organizations may face opportunity costs associated with prioritizing environmental initiatives over other potentially profitable projects, making it challenging to justify investments in environmental accounting.

7. **Limited Focus on Social and Governance Aspects:**

   - **Neglecting Broader Sustainability Issues**: Environmental accounting often focuses primarily on environmental impacts, potentially overlooking social and governance aspects of sustainability (often referred to as the "ESG" criteria). This narrow focus can limit the effectiveness of sustainability initiatives.

1.3 Summary:

Environmental accounting is vital for promoting sustainability and responsible resource management. It helps organizations understand their environmental impacts, comply with regulations, and engage stakeholders. The evolution of environmental accounting reflects growing awareness of environmental issues and the need for integrated practices that account for both financial and environmental factors. However, various challenges must be addressed to enhance its effectiveness and implementation. Environmental accounting is vital for integrating environmental considerations into financial practices, promoting sustainability, and addressing the complex challenges of pollution and degradation. It supports informed decision-making and fosters responsible resource management, contributing to a more sustainable and equitable future.

1.4. Terms to Remember:

Environmental Accounting

- **Environmental Accounting**: Incorporates environmental costs and benefits into financial decision-making and reporting.
- **Cost Accounting**: Tracking costs related to environmental protection activities.
- **Environmental Management Accounting (EMA)**: Collecting and analyzing data related to environmental impacts to improve decision-making.
- **Green Accounting**: Valuing natural resources and ecosystem services.
- **Sustainability Reporting**: Sharing information about environmental performance and initiatives.

Importance of Environmental Accounting

- **Enhanced Decision-Making**: Provides data for informed decisions balancing profitability and sustainability.

- **Cost Reduction**: Identifies inefficiencies and potential savings.
- **Risk Management**: Identifies and manages environmental risks.
- **Regulatory Compliance**: Helps in tracking compliance with environmental laws.
- **Stakeholder Engagement**: Enhances transparency and builds trust with stakeholders.
- **Sustainable Development**: Promotes practices that ensure long-term resource availability.
- **Support for Strategic Planning**: Aligns financial goals with sustainability objectives.
- **Corporate Social Responsibility (CSR)**: Demonstrates commitment to responsible practices.

Evolution of Environmental Accounting

- **Early Concepts (1960s - 1970s)**: Initial awareness and basic reporting.
- **Integration of Environmental Costs (1980s)**: Environmental legislation and cost-benefit analysis.
- **Development of Environmental Management Systems (1990s)**: ISO 14001 and the triple bottom line.
- **Formalization and Standardization (2000s)**: Sustainability reporting and GRI guidelines.
- **Integration with Financial Accounting (2010s)**: Environmental Profit and Loss (EP&L) accounts and regulatory pressure.
- **Technological Advancements and Data Analytics (2020s)**: Digital tools and climate disclosure standards.
- **Future Trends**: Circular economy, integrated reporting, and evolving regulations.

Areas of Environmental Accounting: National and Corporate Perspectives

- **National Angle**:
- **Natural Resource Accounting**: Valuation of natural resources.
- **Environmental Indicators**: Metrics for tracking environmental performance.

- **Cost-Benefit Analysis for Policies**: Evaluating economic implications of environmental policies.
- **International Reporting**: Reporting environmental performance to international bodies.
- **Corporate Point of View**:
- **Environmental Management Accounting (EMA)**: Tracking and managing environmental costs.
- **Sustainability Metrics**: Quantifying environmental impacts.
- **Lifecycle Analysis**: Assessing product impacts from production to disposal.
- **Integration into Financial Reporting**: Reflecting environmental performance in financial statements.

Major Accounting Issues Relating to Environmental Accounting

- **Measurement and Valuation Challenges**: Difficulty in quantifying and valuing environmental costs and impacts.
- **Data Availability and Quality**: Challenges in collecting and ensuring the quality of environmental data.
- **Integration with Financial Accounting**: Complexity in incorporating environmental costs into financial systems.
- **Regulatory and Compliance Issues**: Adapting to evolving regulations and reporting requirements.
- **Stakeholder Expectations**: Meeting demands for transparency and avoiding greenwashing.
- **Cost Implications**: Implementation costs and opportunity costs associated with environmental initiatives.
- **Limited Focus on Social and Governance Aspects**: Narrow focus on environmental impacts, potentially overlooking broader sustainability issues.

1.5 Check your progress:

Check your progress-I

A) Choose the correct alternative from the alternatives given below

1. **Which of the following is NOT a component of the natural environment?**

   A) Air   B) Water   C) Buildings   D) Soil

2. **The built environment includes:**

   A) Rivers and lakes   B) Forests and wildlife

   C) Buildings and infrastructure   D) Soil and minerals

3. **Pollution can be categorized into which of the following types?**

   A) Air, Water, Soil, and Light   B) Air, Water, Soil, and Sound

   C) Water, Soil, Sound, and Temperature

   D) Air, Light, Temperature, and Soil

4. **The environment plays a crucial role in:**

   A) Providing only raw materials for industry

   B) Maintaining the balance necessary for life

   C) Supporting only non-living elements

   D) Creating urban areas

5. **Which of the following is an example of a non-living component of the environment?**

   A) Plants   B) Animals   C) Air   D) Humans

B) State whether the following statements are True or False

1. The environment includes only the living elements such as plants and animals.
2. Environmental issues like pollution and climate change require collective action to address.
3. The environment also includes social and human dimensions, such as human welfare, social justice, health, and education.
4. The environment encompasses these social and human dimensions.

5. The very foundation of economic development relies on the health and availability of environmental resources.

Check your progress-II

A) Choose the correct alternative from the alternatives given below

1. Environmental degradation can result from:

A) Sustainable agricultural practices

B) Urbanization

C) Conservation efforts

D) Increased biodiversity

2. Which of the following is NOT a benefit of environmental awareness?

A) Improved Public Health B) Enhanced Market Share

C) Sustainable Development D) Community Resilience

3. Environmental awareness helps individuals and organizations to:

A) Ignore regulatory requirements

B) Promote unsustainable practices

C) Support eco-friendly products and practices

D) Decrease transparency

4. Environmental accounting aims to:

A) Eliminate all environmental costs

B) Integrate environmental factors into financial decision-making

C) Focus solely on financial profit

D) Avoid compliance with environmental regulations

5. Which of the following is NOT a component of environmental accounting?

A) Cost Accounting

B) Environmental Management Accounting (EMA)

C) Green Accounting

D) Financial Statement Analysis

B) State whether the following statements are True or False

1. The natural environment includes only non-living components such as air, water, and soil.
2. Pollution can take many forms, including air, water, soil, and noise pollution.
3. Integrating environmental costs into traditional financial accounting systems is usually a simple process.
4. Environmental regulations remain constant over time, making it easier for organizations to maintain compliance.
5. The initial awareness of environmental accounting in the 1960s was characterized by basic reporting, not comprehensive and detailed reporting.

Check your progress-III

A) Choose the correct alternative from the alternatives given below

1. Environmental accounting helps organizations by:

A) Ignoring environmental impacts in financial decisions

B) Measuring only financial profits

C) Tracking the economic implications of environmental issues

D) Increasing environmental damage

2. Green accounting focuses on:

A) Tracking financial transactions

B) Valuing natural resources and ecosystem services

C) Managing internal financial costs

D) Reducing employee expenses

3. One of the key benefits of environmental accounting is:

A) Ignoring stakeholder interests

B) Enhancing decision-making by providing environmental cost data

C) Reducing transparency in environmental performance

D) Avoiding compliance with environmental standards

4. **Environmental accounting can contribute to:**

   A) Short-term financial gains only

   B) Risk management and regulatory compliance

   C) Decreasing resource efficiency

   D) Ignoring corporate social responsibility

5. **Which decade saw the introduction of the ISO 14001 standard?**

   A) 1960s B) 1980s C) 1990s D) 2000s

B) State whether the following statements are True or False

1. Environmental awareness involves recognizing the interconnections between natural systems and human behavior.
2. Pollution does not have any significant health consequences for humans and wildlife.
3. Quantifying environmental costs is straightforward due to well-defined economic values for natural resources and ecosystem services.
4. There are universally accepted standards for measuring and reporting environmental impacts.
5. Inadequate data on environmental impacts is often due to limited resources and insufficient staff training.

1.6 Answers to Check your Progress

Check your progress-I

A) 1. C) Buildings 2. C) Buildings and infrastructure

3. B) Air, Water, Soil, and Sound

4. B) Maintaining the balance necessary for life 5.C) Air

B) 1. False 2. True 3. False 4. True 5. False

Check your progress-II

A) 1. B) Urbanization 2. B) Enhanced Market Share

3. C) Support eco-friendly products and practices

4. B) Integrate environmental factors into financial decision-making

5. D) Financial Statement Analysis

B) 1. False 2.True 3. False 4. False 5. False

Check your progress-III

A) 1. C) Tracking the economic implications of environmental issues

2. B) Valuing natural resources and ecosystem services

3. B) Enhancing decision-making by providing environmental cost data

4. B) Risk management and regulatory compliance

5. C) 1990s

B) 1. True 2. False 3. False 4. False 5. True

1.7 Exercise

A) Long type questions

1. What do you mean by Environmental Accounting?
2. Explain the concept of Evolution Environmental Accounting**.**
3. Explain Major accounting issues relating to environment accounting.
4. What is environment? Explain the pollution and environmental degradation.
5. State the importance of Environmental Accounting**.**

B) Short answer questions

1. What is Environmental Management Accounting (EMA)?
2. State the Areas of environmental Accounting - Corporate Point of View
3. What is important things of environmental awareness?
4. State the Areas of environmental Accounting –National angle
5. What is environmental management accounting?

1.8 References for Further study

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Unit-2

Voyage Accounting and Investment Accounting

Index :

Voyage Accounting:

Investment Accounting:

2.1 VOYAGE ACCOUNTING:

2.1.0 Objectives:

1. To understand the components and importance of Voyage Accounts.
2. To explain the Methods and Accounting Entries relating to Investment Accounting.
3. To find the relationship between various types of investments.

2.1.1 Introductions:

A voyage is a journey made by water or in space. Voyage accounting is accounting for a voyage which includes both the outwards and return journey. In this chapter, we are concerned with voyage accounting in the shipping industry.

Voyage Account:

Voyage accounts are maintained by shipping companies which undertakes transport of goods and programmers from one part to another. The consideration charged is fright or fare. The service rendered by shipping companies is commercial in nature and hence it is desirable to know the profit or loss involved in every voyage. A voyage account is just like a Profit and Loss Account in form. The only difference is that it is not only prepared for a particular accounting period but for a particular voyage and includes both outward and return journey of the vessel.

Voyage Account is debited with all Expenses like wages, stores, insurance, commission, brokerage, depreciation, standing charges, port charges, banker cost etc. This account is closed at the end of voyage and Profit or Loss is ascertained after making proper adjustments for any balances of unconsumed stores or fuel. These unconsumed stores and fuel are carried forward to the succeeding Voyage Account of the same vessel. The profit or loss is transferred to General Profit and Loss Account. If the Voyage is incomplete at the end of accounting year, a proportionate amount of expenses and incomes earned are carried forward to the next year as Voyage in progress.

Definition and Purpose of Voyage Accounts:

- Voyage Accounts are a specialized form of accounting that focuses on the financial transactions related to shipping and transportation.
- The purpose of voyage accounts is to track and record the financial performance of a specific voyage or journey undertaken by a ship or transportation vessel.
- These accounts help in analyzing the revenue, expenses and profitability of each voyage, allowing the management to make informed decisions.

2.1.2 Voyage Accounting:

It resembles to profit and loss account. It is prepared for each voyage i.e. inward and outward voyage undertaken by a ship, unlike other organization which prepares Profit and Loss Account at the end of accounting year. On the debit side of voyage account all expenses incurred are recorded and in the credit side at income are recorded. The difference between these two sides indicates profit or loss on a particular voyage. This profit or loss account of a shipping company the charter of a ship.

2.1.3 Components of Voyage Accounts:

- **Revenue**: the income generated from the transportation of goods or passengers is recorded as revenue in voyage accounts.
- **Expenses**: Various expenses incurred during the voyage, such as fuel, crew wages, maintenance costs, port charges and insurance are recorded in this category.

- **Gross Profit or Gross Loss**: The difference between revenue and expenses gives the gross profit or loss for a particular voyage.
- **Overhead Expenses**: Fixed expenses that are not directly related to a specific voyage, such as administrative costs, are recorded separately.
- **Net Profit/ Loss** : The Net Profit or Loss is obtained by deducting overhead expenses from the gross profit or loss.

2.1.4 Expenses which appear on the Debit side of Voyage Account:

1. **Address Commission:** it is commission paid by a shipping company to agents who procure business to it . this amount is fixed as certain percentage on the total freight (inward and outward) earned.
2. **Coal :** Coal is used as fuel by the ship. This can be recorded in any of the two ways. Firstly the opening of coal and purchases of the same are debited to voyage account and closing stock of coal credited to voyage account. Alternatively, the purchase of coal are added to opening stock and closing stock of coal is deducted. To get the cost of coal consumed.
3. **Consumable or Sundry stores:** These include items such as cotton waste, oil grease etc. used in a ship for as particular voyages.
4. **Insurance Premium:** This may relate to a ship or cargo carried. Proportionate amount of premium applicable for the voyage is to be considered in voyage account.
5. **Depreciation on the ship:** Depreciation on the ship relating to voyage period is to be considered in the voyage account.
6. **Stevedoring Charges:** It refers to loading and unloading charges incurred by a shipping company during the voyage of ship.
7. **Dispatch Money:** The refund of excess freight collected by a shipping company to the shipper of goods is known as dispatch money.
8. **Harbor and Port Charges:** These expenses are incurred by a shipping company at various ports.
9. **Administration Expenses:** This includes printing and stationery, Postage and such other expenses.

10. **Bunker Cost:** The term bunker means the bin where ship's coal are kept. Now a days in place of coal, diesel and fuel are used. Cost incurred for diesel, fuel and fresh water is termed as 'Bunker Cost'.

11. **Port Charges:** Port is used by the shipping companies for loading and unloading of goods and parking of ships hence the charges paid for these purpose are known as port charges.

2.1.5 Income which appear on the credit:

1. **Freight earned:** The charges collected by the shipping company from the shipping of goods for carrying goods high seas are known as freight. It is earned on the outward and inward journey of ship.

2. **Primage:** The additional freight collected by a shipping company from the shippers of goods is known as primage. In the earlier yeas primage was collected with a view to pay to the captain of the ship to encourage him to take special care of cargo. In recent time the primage is returned by the shipping company.

3. **Passage Money:** It represents the fare collection by a shipping company from passengers carried in a ship during particular Voyage.

2.1.6 Proforma of Voyage Account:

Voyage Account

Particular	Amount	Particular	Amount
To Banker Cost	****	By Freight Outward ***	****
To Port Charges	****	Add: Primage Inward ***	
To Harbour Wages	****	Add: Primage ***	
To Stevendoring Charges	****	By Passage Money ***	****
To Loading and Unloading Charges	****	By Closing Stock of Diesel stores etc.	****
To Salaries of Officers & Crew	****	By Voyage in Progress	****
To Commission and Brokerages	****	By Net Loss	****
To Depreciation	****		
To Insurance			
Ship ****			
Freight ****	****		
To standing Charges	****		

To Address Commission To Voyage in Progress (Freight of Incomplete Voyage) To Managers Commission To Net Profit C/d	**** **** **** **** ****		
Total	****	Total	****

2.1.7 Incomplete Voyage:

An Incomplete Voyage refers to a situation where a ship or vessel is unable to complete its intended journey for various reasons. This could be due to mechanical issues, inclement weather, emergencies on board, changes in routes or other unforeseen circumstances that prevent the ship from reaching its destination as planned. In such cases, the ship have to make an unscheduled stop, change course or even return to its original port before completing the voyage. Incomplete Voyages can impact schedules, logistics and cause disruptions for passengers, crew and cargo onboard. On the last day of financial year, a Voyage may be in progress/transit. In such case, the expenses incurred on the incomplete voyage, such expenses should be carried forward. If any Freight or Passage Money has been received should be carried forward.

2.1.8 Check your progress – I

Choose the correct alternatives from the following.

1. A voyage is a journey made by ----------

   a) Road b) Railway c) Water or Space d) None of the above.

2. Voyage Accounting is accounting for a voyage which includes ---------journey.

   a) Outward b) Inward c) Both a and b d) none of these.

3. Voyage Accounting is concerned with ---------- industry.

   a) Manufacturing b) Small scale c) Corporate d) Shipping.

4. -------- is paid by the shipping companies to the brokers for procurement of freight from different parties.

   a) Ordinary Commission b) Special Commission.

   c) Address Commission. d) General Commission.

5. -------- is collected from the few passengers carried side by side with the merchandise.

a) Cash Money b) Credit Money c) Passage Money d) Digital Money.

6. --------- is an additional freight calculated as a percentage of freight earned.

a) Primage b) Port charges c) Passage Money d) None of the above.

7. Voyage Account is in the form of ------------

a) Trading Account b) Profit and Loss Account.

c) Balance sheet c) None of the above.

8. Voyage Account is prepared for a particular -----------------

a) Accounting Period b) any Period.

c) voyage d) At the end of financial year.

9. The voyage Account is closed at the end of the ---------

a) Year b) Period c) Voyage d) none of the above.

10. -------- is an expenditure incurred on fuel oil, diesel, coal and fresh water used during the voyage.

a) Bunker Cost b) Stevedoring Charges.

c) Depreciation. d) Port Charges.

2.1.9 PRACTICAL PROBLEMS:

Problem No 1

Bhargav Patil Shipping company commenced its voyage Bombay to Chennai on 1/03/2023 to 30th April 2023.

Particular	**Amount**
Brokerage	16,000
Insurance	36,000
Depreciation for 2 months	40,000
Salaries	1,00,000
Bunker Cost	8,000
Light House Cost	6,000

Freight earned for return journey Rs. 2,00,000 and for outward journey Rs. 2,50,000. Primage is 10% on Freight.

Solution:

In the books of Bhargav Patil Shipping Company.

Voyage Account

(From 1st March 2023 to 30th April 2023)

Particular	Amount	Particular	Amount
To Brokerage	16,000	**By Freight**	
To Insurance	6,000	Outward 2,50,000	
(36,000 × 2/12)		Inward 2,00,000	4,50,000
To Depreciation	40,000	**By Primage @ 10%**	
To Salaries	1,00,000	Outward 25,000	
To Bunker Cost	8,000	Inward 20,000	45,000
To Light Hour Cost	6,000		
To Net Profit C/d	3,19,000		
	4,95,000		**4,95,000**

Problem No. 2 :

The B.B.Patil undertook a Voyage from Bombay to Kolkata starting from 1st January 2023 and reaching on 31st March 2023. The Cargo consisted of 1,800 tons of machinery parts and 200 tons of food grains. The freight charges were Rs. 1500 per ton for machinery parts and Rs. 100 per ton for food grains. In addition Primage was 10%. Brokerage was payable at 5%. The expenses were:

Particular	Bombay	Kolkata
Diesel	40,000	-------
Port Charges	18,000	4,000
Harbour Charges	6,000	2,000
Loading Charges	4,000	----

Other Expenses were:

Stores	1,000
Discharging expenses	4,000
Postage	2,000
Salaries	20,000

The ship was insured for 20,00,000 @ 1% for voyage policy of Hull. The freight was insured @ ½ %. Depreciation is charged on the written down value of the ship @ 5% p.a. the value as on 1st January 2023 was 16,00,000.

Prepare Voyage Account.

Solution:

In the books of B.B. Patil

Voyage Account

(From 1st January 2023 to 31st March 2023)

Particular	**Amount**	**Particular**	**Amount**
To Diesel	40,000	By Freight	
To Port Charges	22,000	1800 × 150= 2,70,000	
(18,000 + 4,000)		200 × 100 = 20,000	2,90,000
To Harbour Charges	8,000	By Primage @ 10%	29,000
(6,000 + 2,000)		(2,90,000 × 10%)	
To Loading Charges	4,000		
To Stores	2,000		
To Discharging Expenses	4,000		
To Postage	2,000		
To Salary of Crew	20,000		
To Insurance of Hull (W.N. 1)	21,595		
To Brokerage @ 5% (W.N. 2)	15,950		
To Depreciation @ 5% (W.N.3)	20,000		
To Net Profit C/d	1,59,455		
	3,19,000		**3,19,000**

Working Note:

1. Insurance on Hull

Insurance on Hull	
20,00,000 × 1% =	20,000
Add Freight	
(3,19,000 × ½% =	1,595
(Freight + Primage)	
	21,595

2. **Brokerage @ 5%**

On Freight and Primage

2,90,000 + 29,000 = 3,19,000 × 5% = 15,950.

3. **Depareciation @ 5% for 3 Months .**

16,00,000 × 5% = 80,000 × 3/12 = 20,000

Problem No. 3

Pratap Patil commenced a voyage on 1st October 2023 from Bombay to Japan and back. The Voyage was completed on 30th November 2023. It carried a consignment of coffee on its outward journey and of spare parts of machinery on its return journey. The ship was insured and the annual premium was Rs. 48,000. Prepare Voyage Account from the following.

Particular	Amount
Freight earned outward	2,00,000
Creditors	20,000
Freight earned (Inward)	1,40,000
Port Dues	10,000
Building	60,000
Bunker Cost	50,000
Wages and Salaries	1,10,000
Sundry Expenses	32,000
Passage Money Received	20,000
Stores Purchased	11,600
Lighterage charges	13,200
Annual Depreciation	1,92,000

Additional Information:

1. Address commission @ 5% on outward and 4% on return freight.
2. Primage 5% on freight.
3. Stores in hand were valued at Rs. 6,000. On 30th November 2023.
4. Manager is to get commission of 10% on Net Profit before charging such commission.

Solution:

In the books of Shri Pratap Patil

Voyage Account

(From 1st Oct. 2023 to to 30th Nov. 2023)

Particular	Amount	Particular	Amount
To Port Dues	10,000	By Freight outward	2,00,000
To Bunker cost	50,000	By Freight Inward	1,40,000
To Wages and Salaries	1,10,000	By Primage Outward @ 5% (5% on Freight Outward)	10,000
To Sundry Expenses	32,000	By Primage Inward @ 5% (5% on Freight Inward)	7,000
To Stores Purchased	11,600	By Passage Money	20,000
To Lighterage	13,200	By Stores in hand	6,000
To Depreciation (1,92,000 × 2/12)	32,000		
To Address Commission (W.N.1)	16,380		
To Insurance (48,000 × 2/12)	8,000		
To Managers commission (W.N.2)	9,982		
To Net Profit C/d	89,838		
	3,83,000		**3,83,000**

Working Notes :

1. Address Commission

a) 5% on Freight + Primage outward 2,00,000 + 10,000= 2,10,000 × 5% =	10,500
b) 4% on Freight + Primage Inward 1,40,000 + 7,000= 1,47,000 × 4% =	5,880
	16,380

2. **Managers Commission is 10% On Net Profit before charging Mangers commission.**

Net profit before managers Commission is 3,83,000 – All Expenses 3,83,000 - 2,83,180 = 99,820	**Managers Commission = (10% on 99,820) = Rs. 9,982**

Problem No. 4

D.G.Chghlikar and company commenced voyage on 1st October 2022 from Kolkata to Canada and back. The Voyage was completed on 30th November 2022. It carried a consignment of tea on its outward journey and of machinery on its return journey. The ship was insured and annual premium was Rs. 60,000.

Prepare Voyage Account from the following particulars

Freight earned (Outward)	2,50,000
Freight earned (Inward)	1,75,000
Port dues	12,500
Bunker Cost	75,000
Stores	42,000
Wages and salaries	1,25,000
Sundry Expenses	12,500
Passage money received	25,000
Lighterage charges	16,500
Annual Depreciation	2,40,000

Additional Information:

1. Address Commission is 5% on outward and 4% on inward freight.
2. Primage is 5% on freight
3. The manager is entitled to get 5% commission on the profit earned after charging such commission.
4. Stores and coal in hand were valued at Rs. 7,500 on 30th November 2022.

Solution:

In the books of D.G.Chighlikar and company

Voyage Account

(From 1st October 2022 to 30th November 2022)

Particular	Amount	Particular	Amount
To Insurance (60,000 × 2/12)	10,000	By Freight Earned (Outward)	2,50,000
		By Freight Earned (Inward)	1,75,000
To Port Dues	12,500	By Passage Money Received	25,000
To Bunker Cost	75,000	By Primage @5% on Outward (5% on 2,50,000)	12,500
To Wages and Salaries	1,25,000		
To Stores	42,000	By Primage @ 5% on Inward (5% on 1,75,000)	8,750
To Sundry Expenses	12,500		
To Lighterage Charges	16,500	By Stores and Coal in hand	7,500
To Depreciation (2,40,000 × 2/12)	40,000		
To Address Commission (W.N. 1)	20,475		
To Managers Commission (W.N.2)	5,941		
To Net Profit C/d)	1,18,834		
	4,78,750		**4,78,750**

Working Notes :

3. Address Commission

c) 5% on Freight + Primage outward 2,50,000 + 12,500 = 2,62,500 × 5% =	13,125
d) 4% on Freight + Primage Inward 1,75,000 + 8,750 = 1,83,750 × 4% =	7,350
	20,475

4. Managers Commission is 5 % On Net Profit After charging Mangers commission.

In problem No. 3 there was same adjustment but difference was there that managers commission was 10 % on Net Profit **before charging such commission** but in this problem Managers commission is 5% on Net profit **after charging such commission** in this case managers commission will be calculated like as follows:

Net profit before charging managers Commission is	Managers Commission after Charging commission =
4,78,750 – All Expenses	
4,78,750 - 3,53,975 = 1,24,775	
It is assumed that Net Profit is Rs. 100	**= 1,24,775 × 5/105**
Then Mangers Commission will be Rs. 5	
Net Profit before charging commission will be	
= 100+5= 105	**= 5,941**

Problem No. 5

Indian Royal Limited regularly employed on cargo trade between India and South Africa. Ship set on their voyage on 1st July 2022 and arrived at their destination on 14th August 2022. You are requested to prepare a Voyage Account bearing in mind the following particulars:

1. The vessel was purchased in 2010 for 1 Crore. And at the time of purchase had 20 years of working life left. (Depreciation on ship is charged on Straight Line Method)
2. Standing cost per day excluding recovery of depreciation is Rs. 25,000.
3. The vessel consumes daily 14 tonnes of fuel oil, 2 tonnes of diesel and 15 tonnes of fresh water. The cost of these are Rs. 1,000, Rs. 1,350 and Rs. 20 per tonne respectively.
4. The vessel loaded the under mentioned cargo:

   5,000 tonnes on which freight of Rs. 400 per tone was charged and 4,000 tonnes on which the rate of freight was Rs. 200 per tonne. Both the rates are to enhanced by a surcharge of 20% over the basic rates.
5. Freight brokers were due a brokerage of 2 ½ %
6. Port charges at loading and discharging ports were Rs. 40,000 and Rs. 85,000 respectively.

Solution:

In the books of Indian Royal Limited

Voyage Account

(From 1st July 2022 to 14th August 2022)

Particular	Amount	Particular	Amount
To Standing cost (25,000 × 45) To Bunker Cost (W.N.1) To Port Charges (40,000 + 85,000) To Brokerage (W.N. 3) To Depreciation (W.N.4) To Net Profit C/d	11,25,000 7,65,000 1,25,000 70,000 61,644 6,53,356	By Fright Earned (W.N.2)	28,00,000
	28,00,000		28,00,000

Working Notes:

1. Bunker Cost :

Particular	Quantity (A) (Tonnes Daily)	Rate (B)	Duration ©	Amount (A×B×C)
Fuel	14	1,000	45	6,30,000
Diesel	02	1,350	45	1,21,500
Fresh water	15	20	45	13,500
Total				**7,65,000**

2. **Fright Earned:**

a) 5000 tonnes @ Rs. 400 per tonne b) 4,000 tonnes @ Rs. 200 per tonne	20,00,000 8,00,000
Total	28,00,000

3. **Brokerage :** Brokerage is 2 ½ % on Freight Earned

= 28,00,000 × 2 ½% = 70,000.

4. Depreciation: (Straight Line Method)

Depreciation = Cost / Estimated Life of Asset

= 1,00,00,000 / 20

= 5,00,000 per year

= working period is 45 days only

Hence depreciation is taken for only 45 days

= 5,00,000 × 45/365

= 61644 (Approx.)

Problem No. 6:

Evergreen Line sailed from Bombay Port on 1st April 2023 and Arrived at Chennai Port on 31st May 2023 via Vishakhapatnam port. The following goods were loaded.

2,000 M.T. and 400 M.T. at Bombay Port for Chennai port and Vishakhapatnam Port respectively. Another 1,000 M.T. were loaded at Vishakhapatnam for Chennai. The freight charged were

Bombay to Chennai Port	Rs. 800 per M.T.
Bombay to Vishakhapatnam	Rs. 500 per M.T.
Vishakhapatnam to Chennai Port	Rs. 500 per M.T.

The Freight is subject to 10% Primage, 5% Address Commission and 2.5% Brokerage. The Freight was insured at 1 ½ % . The Hull was insured for the voyage at 1%. The Depreciation was provided at 3% p.a. The cost of the ship is Rs. 1 Crore. The Following were the expenses incurred at different ports.

Particular	**Bombay**	**Vishakhapatnam**	**Chennai**
Port Charges	40,000	25,000	20,000
Coal	80,000	32,000	---------
Captain contingencies	10,000	3,000	15,000
Harbour Charges	12,000	22,000	12,000

Stores purchased for the Voyage amounted to Rs. 70,000. Opening stock of stores was Rs. 50,000 and closing stock was estimated at Rs. 25,000. Stock of Coal at close was estimated at Rs. 40,000 as against stock of Rs. 15,000 at the beginning. The ship was not come back to Bombay port in the near future as part of the voyage program. Salaries and wages amounted to Rs. 1,00,000 per month. **Prepare Voyage Account.**

Solution:

Voyage Account of Evergreen Limited

(From 1st April 2023 to 31st May 2023)

Particular	Amount	Particular	Amount
To Port Charges	85,000	By Freight (W.N.2)	23,00,000
To coal Consumed (W.N.1)	87,000	By Primage 10%	2,30,000
To Stores Consumed	95,000		
To Captain contingencies	28,000		
To Address Commission (W.N.3)	1,26,500		
To Harbour Wages	46,000		
To Brokerage (W.N.4)	63,250		
To Freight Insurance (W.N.5)	37,950		
To Hull Insurance (W.N.6)	1,00,000		
To Hull Depreciation (W.N.7)	50,000		
To Salaries and Wages (1 Lakh × 2)	2,00,000		
To Net Profit C/d	**16,11,300**		
	25,30,000		**25,30,000**

Working Notes:

1. Calculation of Stores and Coal consumed:

Particular	**Stores Rs.**	**Coal Rs.**
Opening stock	50,000	15,000
Add Purchase	70,000	1,12,000
Total	1,20,000	1,27,000
Less : closing stock	25,000	40,000
Net Amount	**95,000**	**87,000**

2. **Calculation of Freight:**

Particular	Amount
Bombay Port to Chennai Port (2,000 × 800)	16,00,000
Bombay to Vishakhapatnam (400 × 500)	2,00,000
Vishakhapatnam to Chennai (1,000 × 500)	5,00,000
Total	**23,00,000**

3. **Calculation of Address Commission:**

Payable on Freight and Primage @ 5% .

Freight	23,00,000
Primage	2,30,000
	25,30,000

Address Commission = 25,30,000 × 5%

= 1,26,500

4. Calculation of Brokerage:

Brokerage is payable @2.5% on Freight and Primage.

Brokerage = 25,30,000 × 2.5%

= 63,250.

5. **Calculation of Freight Insurance:**

Freight Insurance is payable @ of 1.5% on Freight and Primage.

Freight Insurance = 25,30,000 × 1.5%

= 37,950

6. **Calculation of Hull Insurance:**

Hull Insurance is Payable for the Voyage is 1%

Cost of Ship is 1 Crore .

Hull Insurance = 1 Crore × 1%

= 1,00,000

7. **Calculation of Depreciation:**

Rate of Depreciation is 3% and Cost of Ship is 1 Crore. Voyage was only for two months hence Depreciation will be charged for the month of April and May i.e. Two months.

Depreciation = 1 Crore × 3% = 3,00,000 × 2/12 = 50,000

Problem No: 7

Dattu Shipping company of Mumbai had a ship name Narsingh whose written down value as on 1st July 2023 was Rs. 48,00,000. The ship was insured for Rs. 60,00,000 at 1% for voyage policy of Hull. The ship made a trip to Canada and returned to Chennai during the period 1st July 2023 to 30th September 2023. The particulars relating to the Voyage are given below.

1. Expenditure incurred during the period:

Salaries to the crew	50,000
Fuel	1,10,000
Port dues	60,000
Stores expenses	64,000
Shares of overhead for the ship	32,000

2. Stevedoring @of Rs. 3 Per Tonne.
3. Depreciation was charged on Written Down Value (WDV) @10% p.a.
4. The freight was insured @ 1%.
5. **The particulars of the freight consisted of the following**

a) Leather goods 2,200 tonnes @ Rs. 120 per tonne.

b) Cotton 1,000 tonnes @ Rs. 150 per tonne.

c) Sugar 3,400 tonnes @ Rs. 100 per tonne.

6. In addition to Primage @ 10%, the Brokerage payable @5%

Prepare Voyage Account for 3 months.

Solution:

In the books of Dattu Shipping Company

Voyage Account

(For the period from 1st July 2023 to 30th September 2023)

Particular	Amount	Particular	Amount
To Salaries of the crew	50,000	By Freight (W.N.1)	7,54,000
To Fuel	1,10,000	By Primage	75,400
To Port Dues	60,000	(7,54,000 × 10%)	
To Stores Expenses	64,000		
To Shares of Overhead	32,000		
To Stevendoring (6,600 × 3)	19,800		
To Insurance of Hull	60,000		
To Insurance of Freight (1% on 7,54,000)	7,540		
To Depreciation (10% on 48,00,000 for 3 Months)	1,20,000		
To Brokerage @ 5% (W.N.2)	41,470		
To Net Profit C/d	2,64,590		
	8,29,400		**8,29,400**

Working Notes:

1. Calculation of Brokerage:

Particular	Quantity	Rate	Total Amount
Leather Goods	2,200	120	2,64,000
Cotton Goods	1,000	150	1,50,000
Sugar	3,400	100	3,40,000
Total	**6,600**		**7,54,000**

2. Calculation of Brokerage:

Brokerage is payable @ % on Freight and Primage.

Freight	7,54,000
Primage	75,400
Total	**8,29,400**

Brokerage = 8,29,400 × 5%

= 41,470

Problem No. 8 (Incomplete Voyage)

S.D. Sagar commenced Voyage on 1st January 2023 from Goa to Chennai. The details of complete Voyage i.e. Goa to Chennai and back to Goa were as follows.

Coal Consumption	1,40,000
Port Charges	28,000
Depreciation	80,000
Sundry Expenses	8,000
Wages	16,000
Freight	8,00,000
Stores Consumed	60,000
Salaries	96,000
Insurance (Ship)	80,000
Insurance (Freight)	32,000

Additional Information:

1. Primage and address Commission are 10% and 5% respectively.
2. Freight relating to the incomplete journey amounted to Rs. 2,40,000 only.
3. The accounts are closed on 31st March 2023. The ship was on her half way back to Goa on date of closing the accounts.

Prepare Voyage Account for three months.

Solution:

In the books of S.D. Sagar

Voyage Account

(For the Period from 1st January 2023 to 31st March 2023)

Particular	Amount	Particular	Amount
To Coal Consumed	1,40,000	By Freight	8,00,000
To Port Charges	28,000	By Primage	80,000
To Depreciation	80,000	(10% on 8,00,000)	

To Sundry Expenses	8,000	By Voyage in Progress W.N.1)	2,76,800
To Wages	16,000		
To Stores Consumed	60,000		
To Salaries	96,000		
To Insurance (Ship)	80,000		
To Insurance (Freight)	32,000		
To Address Commission (W.N.2)	44,000		
To Provision for incomplete Voyage			
Freight 2,40,000			
Add Primage 10% 24,000	2,64,000		
To Net Profit C/d	3,08,800		
	11,56,800		**11,56,800**

Working Notes:

1. Calculation of Voyage in progress:

Particular	**Amount**
Coal consumed	1,40,000
Port Charges	28,000
Depreciation	80,000
Sundry Expenses	8,000
Wages	16,000
Stores Consumed	60,000
Salaries	96,000
Insurance – Ship	80,000
Total	**5,08,000**
Half of Rs. 5,08,000	2,54,000
Add: $\frac{76,000 \ x \ 2,40,000}{8,00,000}$	22,800
Voyage in Progress	2,76,800

Notes:

1) Insurance (Freight) + Address Commission.

= 32,000 + 44,000 = 76,000

2) Rs. 2,40,000 is a Freight relating to return journey. (Incomplete Voyage)

3) Rs. 8,00,000 is a Freight received.

2. **Address Commission is payable @ 5%**

Freight + Primage

= 8,00,000 +80,000 = 8,80,000

= 8,80,000 × 5%

= 44,000.

2.1.10 Summary

Voyage Accounting:

Voyage Accounts refer to the financial records specifically related to the costs and revenue associated with a single voyage or voyage period of a shipping transportation company. these accounts track all expenses incurred during the voyage, such as fuel, crew wages, port charges and repairs as well as revenues from freight charges or other income generated. The primary purpose of voyage accounts is to determine the profitability of a specific voyage by comparing the total costs against the total revenues. This detailed accounting helps in evaluating the financial performance of each voyage. Facilitating better decision making and financial management in the shipping industry. Voyage accounts are prepared to track and analyze the financial performance of a specific voyage. This includes recording all relevant expenses and revenues to determine the profitability of the voyage.

2.1.11 Key Terms:

1. **Address Commission:** it is commission paid by a shipping company to agents who procure business to it . This amount is fixed as certain percentage on the total freight (inward and outward) earned.

2. **Coal :** Coal is used as fuel by the ship. This can be recorded in any of the two ways. Firstly the opening of coal and purchases of the same are debited to

voyage account and closing stock of coal credited to voyage account. Alternatively, the purchase of coal are added to opening stock and closing stock of coal is deducted. To get the cost of coal consumed.

3. **Consumable or Sundry stores:** These include items such as cotton waste, oil grease etc. used in a ship for as particular voyages.

4. **Insurance Premium:** This may relate to a ship or cargo carried. Proportionate amount of premium applicable for the voyage is to be considered in voyage account.

5. **Depreciation on the ship:** Depreciation on the ship relating to voyage period is to be considered in the voyage account.

6. **Stevedoring Charges:** It refers to loading and unloading charges incurred by a shipping company during the voyage of ship.

7. **Dispatch Money:** The refund of excess freight collected by a shipping company to the shipper of goods is known as dispatch money.

8. **Harbor and Port Charges:** These expenses are incurred by a shipping company at various ports.

9. **Administration Expenses:** This includes printing and stationery, Postage and such other expenses.

10. **Bunker Cost:** The term bunker means the bin where ship's coal are kept. Now a days in place of coal, diesel and fuel are used. Cost incurred for diesel, fuel and fresh water is termed as 'Bunker Cost'.

11. **Port Charges:** Port is used by the shipping companies for loading and unloading of goods and parking of ships hence the charges paid for these purpose are known as port charges.

12. **Freight earned:** The charges collected by the shipping company from the shipping of goods for carrying goods high seas are known as freight. It is earned on the outward and inward journey of ship.

13. **Primage:** The additional freight collected by a shipping company from the shippers of goods is known as primage. In the earlier yeas primage was collected with a view to pay to the captain of the ship to encourage him to take

special care of cargo. In recent time the primage is returned by the shipping company.

14. **Passage Money:** It represents the fare collection by a shipping company from passengers carried in a ship during particular Voyage.

2.1.12 Answers in check Your Progress I

Answers:

1	Water or Space	2	Both a and b	3	Shipping.
4	Address Commission.	5	Passage Money	6	Primage
7	Profit and Loss Account.	8	voyage	9	Voyage
10	Bunker Cost				

2.1.13 Self assessment Questions:

1. Define Voyage Accounting. State the objectives of Voyage Accounting.
2. Explain the importance of Voyage Accounting.

2.1.14 Exercise :

Problem No. 1

Shradha Patil Shipping company commenced its voyage Bombay to Chennai on 1/10/2023 to 30th November 2023.

Particular	Amount
Brokerage	64,000
Insurance	1,44,000
Depreciation for 2 months	1,60,000
Salaries	4,00,000
Bunker Cost	32,000
Light House Cost	24,000

Freight earned for return journey Rs.8,00,000 and for outward journey Rs10,00,000. Primage is 10% on Freight.

Problem No. 2

Sagar Powar company undertook a Voyage from Mangalore to Cochin starting from 1st October 2023 and reaching on 31st December 2023. The Cargo consisted of 7,200 tons of machinery parts and 800 tons of food grains. The freight charges were Rs. 6,000 per ton for machinery parts and Rs. 400 per ton for food grains. In addition Primage was 10%. Brokerage was payable at 5%. The expenses were:

Particular	Bombay	Kolkata
Diesel	1,60,000	-------
Port Charges	72,000	16,000
Harbour Charges	24,000	8,000
Loading Charges	16,000	----

Other Expenses were:

Stores	4,000
Discharging expenses	16,000
Postage	8,000
Salaries	80,000

The ship was insured for 80,00,000 @ 1% for voyage policy of Hull. The freight was insured @ ½ %. Depreciation is charged on the written down value of the ship @ 5% p.a. the value as on 31st December 2023 was 64,00,000. **Prepare Voyage Account.**

Problem No. 3

Nazia Bojgar Company commenced a voyage on 1st January 2023 from Goa to Madras and back. The Voyage was completed on 31th March 2023. It carried a consignment of coffee on its outward journey and of spare parts of machinery on its return journey. The ship was insured and the annual premium was Rs. 2,40,000. Prepare Voyage Account from the following.

Particular	Amount
Freight earned outward	10,00,000
Creditors	1,00,000
Freight earned (Inward)	5,60,000

Port Dues	50,000
Building	3,00,000
Bunker Cost	2,50,000
Wages and Salaries	5,50,000
Sundry Expenses	1,60,000
Passage Money Received	1,00,000
Stores Purchased	58,000
Lighterage charges	66,000
Annual Depreciation	9,60,000

Additional Information:

1. Address commission @ 5% on outward and 4% on return freight.
2. Primage 5% on freight.
3. Stores in hand were valued at Rs. 30,000. On 31st March 2023.
4. Manager is to get commission of 10% on Net Profit before charging such commission.

Problem No. 4

Gourav Patil and company commenced voyage on 1st January 2022 from Mumbai to Germany and back. The Voyage was completed on 30th 2 March 2022. It carried a consignment of tea on its outward journey and of machinery on its return journey. The ship was insured and annual premium was Rs. 3,60,000.

Prepare Voyage Account from the following particulars

Freight earned (Outward)	15,00,000
Freight earned (Inward)	10,50,000
Port dues	75,000
Bunker Cost	4,50,000
Stores	2,52,000
Wages and salaries	7,50,000
Sundry Expenses	75,000
Passage money received	1,50,000

Lighterage charges	99,000
Annual Depreciation	14,40,000

Additional Information:

1. Address Commission is 5% on outward and 4% on inward freight.
2. Primage is 5% on freight
3. The manager is entitled to get 5% commission on the profit earned after charging such commission.
4. Stores and coal in hand were valued at Rs. 45,000 on 30th March 2022.

Problem No. 5

Abhijit Bhatale company Limited regularly employed on cargo trade between India and England. Ship set on their voyage on 1st August 2022 and arrived at their destination on 14th September 2022. You are requested to prepare a Voyage Account bearing in mind the following particulars:

1. The vessel was purchased in 2010 for 5 Crore. And at the time of purchase had 20 years of working life left. (Depreciation on ship is charged on Straight Line Method)
2. Standing cost per day excluding recovery of depreciation is Rs. 1,25,000.
3. The vessel consumes daily 70 tonnes of fuel oil, 10 tonnes of diesel and 75 tonnes of fresh water. The cost of these are Rs. 5,000, Rs. 6,750 and Rs.100 per tonne respectively.
4. The vessel loaded the under mentioned cargo:

   25,000 tonnes on which freight of Rs. 2,000 per tone was charged and 20,000 tonnes on which the rate of freight was Rs. 1,000 per tonne. Both the rates are to enhanced by a surcharge of 20% over the basic rates.
5. Freight brokers were due a brokerage of 2 ½ %
6. Port charges at loading and discharging ports were Rs. 2,00,000 and Rs. 4,25,000 respectively.

2.2 INVESTMENT ACCOUNTING

2.2.1 Introduction:

An Investment is the purchase of goods that are not consumed today but are used in the future to create wealth. In finance, an investment is a monetary asset purchased with the idea that the asset will provide income in the future or will later be sold at a higher price for a profit. Investment is an asset which generate an income. Individuals, organizations, firms invest money in different types of assets like real estate, bank deposits, securities such as Government securities, Debentures, Bonds, Shares etc. to earn some amount of income. Income from investment may be in the form of interest or dividend.

2.2.2 Classification of Investment:

From the view point of nature of income, investment may be classified as under.

1. Current Investment:

A Current Investment is an investment that is by nature readily realizable and is intended to be held for not more than one year from the date of investment. The carrying amount for current investment is the lower of cost price or fair value.

Fair Value : The Fair Value of an investment refers to the value at which and investment can bought or sold between willing parties, in an arm's length transaction. It represents the current market price or the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In accounting and finance, investments are often categorized as either held at fair value through profit or loss or measurement at fair value through other comprehensive income. The fair value of an investment can fluctuate based on market conditions, changes in interest rates, economic factors and other variables. Overall fair value of an investment is a key concept in finance and accounting that helps to determine the worth an asset or liability based on prevailing market conditions.

Market Value : Market value is the amount obtainable from the sale of an investment in an open market, net amount of expenses necessarily to be incurred on or before disposal.

2. Non-Current Investment:

Non-Current Investment also known as Long-Term Investments are investment that a company intends to hold for an extended period, typically longer than one year, as a part of its strategic objectives rather than for immediate resale. These investments are not intended for regular trading or for meeting the short term cash needs of the business. Non-Current investments are typically reported on the Balance Sheet of a company under the Non-Current Asset section. They are classified ad investments in entities such as other companies stock, Bonds, Real Estate Properties or other long term assets that are not intended for slae in the near future. These investments are accounted for at their original cost and fluctuations in their value at usually not recognized in the income statement unless there is impairment in the value of an investment.

3. Investment Property:

An Investment Property is a real estate property or asset that is purchased with the intention of generating income, profit or long term appropriation in value. It is not intended for personal use but rather as a mean to earn rental income, dividends, interest or capital gain.

Example of Investment Property Include:

- Rental Properties (Residential or Commercial)
- Fixed and Flip Properties. (Renovated and sold for profit)
- Real estate investment trust.
- Commercial properties (e.g. Office Buildings, Retail Spaces)
- Industrial Properties (E.g. Warehouses, Manufacturing Facilities)
- Land and Vacant Plots. (For Development or Resale)

2.2.3 Reclassification of Investment / Types of Investment:

1. Fixed Income Bearing Securities:

Fixed Income Bearing Securities are those in which the rate of return is fixed. Fixed Income Bearing Securities are financial investments that provides a regular predictable income stream to investors, typically in the form of interest payments.

These securities offer a relatively stable return, usually with a fixed interest rate and a return of principal at maturity.

- **Example of fixed Income Bearing Securities:**

Bonds, Treasury Bills and Notes, Certificates of Deposits, Commercial Paper, Preferred Stocks, Fixed Rate Loans. Mortgage – Backed securities, Asset-Backed securities etc.

- **Characteristics of Fixed Income Bearing Securities:**

a) **Regular Income:** Predictable interest payments, usually semi-annually or annually.

b) **Fixed Interest Rate:** The interest rate is set at issuance and remain constant.

c) **Return of Principal:** The investors principal investment is returned at maturity.

d) **Lower Risk:** Generally considered lower risk compared to stocks or equities.

e) **Liquidity:** varies but many fixed income securities can be easily sold or traded.

2. Variable Income Bearing Securities:

Variable Income Bearing Securities are financial instruments that offer a return on investment that can fluctuate over time, unlike fixed income securities which provide a predictable income stream. The income generated by these securities can vary due various factors such as market conditions. Interest rate changes credit worthiness of the issue underlying asset performance.

2.2.4 Interest and Dividend:

All the investments are expected to yield some income to the investors in the form of a fixed rate of interest or a certain percentage of dividend on their face value at regular intervals. The yield on shares of joint stock companies, corporations etc. is termed as dividends, where as a fixed return provided by Government, Local Authorities, Corporations and Companies on their securities such as bonds, loans, debentures, certificates etc. is interest.

2.2.5 Purchase/Sale of investment before the date of payment of interest:

When investments are purchased or sold before the due date of interest a problem may arise whether quotation price includes the interest or not. The quotation of price may be ex-interest or cum-interest.

- **Meaning of Cum-Interest / Cum-Dividend:**

Cum Interest is a term used in finance to indicate that the interest on a security or investment is included in the price or value. It means that the buyer of the security will receive the upcoming interest payment rather than the seller. In other words 'Cum-Interest' means that the security is being sold with the interest accrued since the last interest payment date and the buyer will receive the next interest payment, even if they didn't own the bond when the interest accrued. The seller will not receive the interest payment as it is included in the sale price. Cum-Interest is often used in the context of Bond Trading, dividend-Paying stocks, mutual Funds, Exchange-Traded Funds etc.

- **Meaning of Ex-Interest or Ex-Dividend:**

When the seller retains the right to receive the interest or dividend the transaction is called 'Ex-Interest' or 'Ex-Dividend' purchase or sale. In other words the price quoted is exclusive of accrued interest/dividend the price so quoted is treated as the capital cost of investment i.e. the buyer has to pay accrued interest due from the last interest date to the date of transaction to the seller along with the cost price of investment.

2.2.6 Investment Accounting:

Investment Accounting means the process of recording transactions relating to each type of securities in a separate account in order to make available full information about that type of securities.

- **Features of Investment Account:**

1. **Columnar Form:** An Investment Account contains three amount columns on either side Nominal amount, Capital and Income Columns.
2. **Simultaneous recording in there columns :** When investment are purchased or sold, not only the cost price or sales price is recorded in the capital column but also nominal value of investment and accrued interest are also recorded.

3. **Determination of Profit or Loss on sale:** Profit or Loss on sale of investment is ascertained by balancing the capital column. Profit / Loss on sale of investment is transferred to profit and Loss Account.

4. **Closing Balance:** Closing Balance of investment account at the end of the accounting period shows the nominal value, capital value and accrued interest on nominal value in respective columns.

5. **Valuation of Current Assets:** At the time of annual closing, securities in hand are valued them as current assets and are valued at cost or market price whichever less.

2.2.7 Accounting Treatment:

A) Purchase or Sale of investment on the date of payment of interest:

When the investment is purchased or sold on the date of interest, the quotation price does not include interest hence the allocation of a quoted price between cost and revenue does not arise. The whole quoted price represents the cost of investment.

Journal entries:

Date	Particular	L.F.	Dr. Rs.	Cr. Rs.
1	**When investment is purchased on interest date:** Investment Account……………….Dr To Bank A/c			
2	**When Interest or Dividend is received after purchase** Bank Account……………………...Dr To Interest or Dividend A/c			
3	**When Investment is sold on Interest date** Bank Account …………………….Dr To Investment Account			
4	**Transfer of interest or dividend to profit and loss account** Interest / Dividend A/c …………….Dr To Profit and Loss A/c			
5	**For transfer of balance on investment**			

	account. Investment Account……………….Dr To Profit and Loss A/c			

Note: Valuation of investment at the end of year.

a) Current investment at cost or fair values whichever is less.

b) Long term investment at cost.

c) Investment properties at cost.

2.2.8 Check Your Progress:

A) Choose the correct alternative.

1) Investment Account is -------------

   a) Personal Account b) Real Account

   c) Nominal Account d) Liability Account.

2) Long Term Investments are valued at -------------

   a) Cost b) Fair Value

   c) Cost or Fair Value whichever is less d) Market value.

3) In investment accounting interest is always calculated on ---------

   a) Market value b) Cost of purchase

   c) Nominal/ face Value d) Higher of cost and fair value.

4) Investment in immovable properties are to be shown under-------

   a) Fixed Assets b) Current Assets

   c) Current Investment d) Long Term Investment.

5) The brokerage is calculated on -----------price of investment.

   a) Market Price b) Fixed Price

   c) Transaction d) Nominal Fair Value.

6) Biyama Company Limited holds 14% Debentures of the face value of Rs, 5,000 in MDC Limited. Interest is payable on 30th June and 31st December

every year. The Debentures were purchased on 1st July 2022, Accounts are closed on 31st March every year. The accrued interest on 31/03/2023 was ----------

a) 175 b) 525 c) 325 d) 350

7) Mubina Limited purchased 10,000 shares @ Rs. 12 each and paid brokerage @ 2%. The cost of acquisition is -------------

a) 1,20,000 b) 2,400 c) 1,22,400 d) 1,25,000

2.2.9 PRACTICAL PROBLEMS:

Problem No. 1 (When Purchase or sale is made on the date of investment)

On 1st April 2022 DJ Ltd purchased 2000 (15%) Debentures of ACC Limited of Rs.. 100 each @ Rs. 96 each. On 1st October 2022 half of the debentures were sold @ Rs. 99 each. Debenture interest is payable half yearly on 30th September and 31st March, **you are requested to show 15% Debentures Account in the books of DJ Ltd., assuming that accounting year is ended on 31st March. Market price of debentures as on 31st March is Rs. 98.**

Solution:

15% Debentures Account

(Interest Payable 30th September and 31st March)

Date	Particular	Nominal Value	Interest	Cost	Date	Particular	Nominal Values	Interest	Cost
1/4/22	To Bank A/c	2,00,000	-	1,92,000	30/09/22	By Bank A/c (Note 1)	-	15,000	-
1/10/22	To P&L A/c (Note 5)	-	-	3,000	1/10/22	By Bank A/c (Note 2)	1,00,000	-	99,000
31/03/23	To P&L A/c (Balance)	-	22,500	-	31/03 23	By Bank A/c (Note 3)	-	7,500	-
					31/03 23	By Balance C/d	1,00,000	-	96,000
		2,00,000	**22,500**	**1,95,000**			**2,00,000**	**22,500**	**1,95,000**

Working Notes:

1. Interest received on 30/09/2022 on Rs. 2,00,000 @ 15% for 6 months.

   = 2,00,000 × 15% = 30,000 × 6/12 = 15,000

2. Half of Debentures were sold @ Rs. 99 each.

   = 2,00,000 × ½ = 1,00,000 × 99

   Sale Proceeds = 99,000.

3. Interest received on 31/03/2023 on Rs. 1,00,000 Debentures @ 15% for 6 months.

   = 1,00,000 × 15% = 15,000 × 6/12 = 7,500.

4. At the of year investment should be valued at cost or fair or fair value whichever is less. In this problem cost price of investment is Rs. 96 and fair value is Rs. 98. Here less value is Rs. 96.

Closing Balance = 1,00,000 × 96

= 96,000.

5. Profit / Loss on sale of investment on 30/09/2022

Selling Price (1,00,000 × 99)	99,000
Less Cost Price (1,00,000 × 96)	96,000
Profit on sale of investment	**3,000**

B) Purchase / Sale of Investment before the date of payment of interest.

When the investment is purchased or sold before the date of interest, a problem may be arise whether the quotation price includes interest (Cum Interest) or excludes interest (Ex- Interest)

Problem No. 2 (Cum- Interest)

On 30^{th} June 2022 Ashok Limited purchased Rs. 4,00,000 6% Government Stock (Face Value Rs. 100 each) at Rs. 95 each on Cum-Interest. Half yearly interest is payable on 30^{th} September and 31^{st} March each year.

Show 6% Government Stock Account in the books of Ashok Limited.

Solution:

In the books of Ashok Limited

6% Government Stock Account

(Interest Payable 30th September and 31st March)

Date	Particular	Nominal Value	Interest	Cost	Date	Particular	Nominal Values	Interest	Cost
30/06/ 2022	To Bank A/c	4,00,000	6,000	3,74,000	30/09/ 2023	By Bank A/c	-	12,000	-
					31/03/ 2023	By Bank A/c	-	12,000	
31/03/ 2023	To P&L A/c (Balance)	-	18,000	-	31/03/ 2023	By Balance C/d	4,00,000	-	3,74,000
		4,00,000	**24,000**	**3,74,000**			**4,00,000**	**24,000**	**3,74,000**

Problem No. 3 (Ex-Interest)

On 30/06/2022 Riya Limited purchased Rs. 3,00,000 8% Government stock (Face Value Rs. 100 each) at Rs. 96 each ex-interest. Half yearly interest is payable on 30th September and 31st March each year.

Show 6% Government Stock Account in the books of Riya Liimited. Assuming that financial year ended on 31st March each year.

Solution:

In the books of Riya Limited

8% Government Stock Account

(Interest Payable 30th September and 31st March)

Date	Particular	Nominal Value	Interest	Cost	Date	Particular	Nominal Values	Interest	Cost
30/06/ 2022	To Bank A/c	3,00,000	6,000	2,88,000	30/09/ 2022	By Bank A/c	-	12,000	-
					31/03/	By Bank	-	12,000	-

31/03/ 2023	To P&L A/c (**Balance)**	-	18,000	-	2023 31/03/ 2023	A/c By Balance C/d	3,00,000	-	2,88,000 -
		3,00,000	**24,000**	**2,88,000**			**3,00,000**	**24,000**	**2,88,000**

Working Notes:

1. On 30/06/20222 interest is calculated for 3 months i.e. April, May and June.

   Interest = 3,00,000 × 8% = 24,000 × 3/12 = 6,000.

2. On 30/09/2022 i.e. interest date hence interest is calculated for 6 months.

   Interest = 3,00,000 × 8% = 24,000 × 6/12 = 12,000.

3. Same calculation is made for interest on 31/03/2023.

Problem No. 4

On 1st April 2022 Parvati Limited had Rs. 6,00,000 8% Government Bonds at Rs. 94 each. (Face Value is Rs. 100) Interest Payable half yearly on 31st March and 30th September. The company sold Rs. 1,80,000 of the stock at Rs. 95 (Cum Interest) on 1st June 2022.

You are required to prepare 6% Government Bonds Account in the books of Parvati Limited. The stock was quoted at Rs. 96 Ex-Interest at the stock exchange on that date.

Solution:

In the books of Parvati Limited

8% Government Bonds Account

(Interest Payable 30th September and 31st March)

Date	Particular	Nominal Value	Interest	Cost	Date	Particular	Nominal Values	Interest	Cost
1/04 2022	To Balance b/d	6,00,000	-	5,64,000	1/06/ 2022	By Bank A/c (W.N.1)	1,80,000	2,400	1,68,600

					30/09 2022	By Bank A/c (W.N.2)	-	16,800	-
31/03/ 2023	To P&L A/c (**Balance**)	-	36,000	-					-
					31/03/ 2023	By Bank A/c (W.N.3)	-	16,800	-
					31/03/ 2023	By Balance C/d	4,20,000	-	3,95,400
		6,00,000	**36,000**	**5,64,000**			**6,00,000**	**36,000**	**5,64,000**

Working Notes:

1. Rs. 1,80,000 Government Bonds are sold @ Rs. 95 (Cum-Interest)

Selling Price (1,80,000 × 95%)	1,71,000
Less: cum-Interest (From 31st March to 1st June) (1,80,000 × 8% = 14,400 × 2/12)	2,400
	1,68,600

2. On 30/09/2022 interest is calculated on remaining bonds for 6 months.

   Unsold Bonds = 6,00,000 – 1,80,000 = 4,20,000

   - Interest is calculated for six months on unsold bonds from 31/03/2022 to 30/09/2022

     = 4,20,000 × 8% = 33,600 × 6/12 = 16,800.

3. On 31st March 2023 interest is calculated for 6 months from 30/09/2022 to 31/03/2023

   = 4,20,000 × 8% = 33,600 × 6/12 = 16,800.

Problem No. 5

Mr. Agarwal Furnishes the following details relating to his holding in 6% Government Bonds.

Date	Particulars
1/01/2021	Opening balance – Face Value Rs. 1,20,000, Cost Rs. 1,18,000
1/03/2021	200 Units Purchased Ex-Interest at Rs. 98.
1/07/2021	Sold 400 units Ex-Interest out of the original holdings at Rs. 100
1/10/2021	Purchased 100 units at Rs. 98 at Cum-Interest.
1/11/2021	Sold 400 Units Ex-Interest at Rs. 99 out of original holdings.

Interest dates are 30th September and 31st March. Mr. Agarwal closes his books every 31st December.

Show Investment Account as it would appear in his books.

Solution:

In the books of Mr. Agarwal.

6% Government Bonds Account

(Interest Payable 30th September and 31st March)

Date	Particular	Nominal Value	Interest	Cost	Date	Particular	Nominal Values	Interest	Cost
1/01 2021	To Balance b/d	1,20,000	1,800	1,18,000	31/03 2021	By Bank A/c	-	4,200	-
1/03/ 2021	To Bank A/c (Ex-Int)	20,000	500	19,600	1/07 2021	By Bank A/c (Sold)	40,000	600	40,000 -
1/07/ 2021	To P&L A/c	-	-	667	30/09/ 2021	By Bank A/c	-	3,000	-
1/10/ 2021	To Bank A/c	10,000	-	9,800					

1/11 2021	To P&L A/c	-	-	267	1/11/ 2021	By Bank A/c (Sold)	40,000	200	39,600
31/12/ 2021	To Bal c/d (**Balance**)	-	6,750	-	31/12/ 2021	By Balance C/d	70,000	1,050	68,734
		1,50,000	**9,050**	**1,48,334**			**1,50,000**	**9,050**	**1,48,334**

Working Notes:

1. On 1/01/2021 accrued interest is calculated for 3 months i.e. from 30th September 2020 to 1st January 2021.

   Accrued Interest = 1,20,000 × 6% = 7,200 × 3/12 = **1,800.**

2. On 31/03/2021 is the interest date. Interest is calculated for 6 months from 30/09/2020 to 31/03/2021. On 31/03/2021 we have two investments i.e. 1,20,000 + 20,000 = 1,40,000.

   Interest Received = 1,40,000 × 6% = 8,400 × 6/12 = **4,200.**

3. On 1st July 2021 - 400 Bonds were sold @ Rs. 100 each at Ex – Interest. Interest is calculated for 3 months from 31st March to 1st July 2021.

   Interest = 40,000 (400 × 100) × 6% = 2,400 × 3/12 = **600.**

4. On 30th September (Date of Interest) interest is calculated for 6 months on unsold stock.

   Unsold stock = 1,20,000 + 20,000 = 1,40,000 – 40,000 = 1,00,000 (Face Value)

   Interest = 1,00,000 × 6% = 6,000 × 6/12 = **3,000**

5. On 1/10/2021 100 Units purchased @ Rs. 98 (Cum-Interest) Face Value is Rs. 100 per unit.

   Face Value = (100 × 100) = 10,000

   Cost = (100 × 98) = 9,800.

But investment is made at cum- Interest, hence cost of investment is taken at cost less interest.

- Last date of interest was on 30/09/2021 and investment os purchased on 1/10/2021 on very next day hence for this transaction interest amount is taken as NIL.

6. On 1st November 2021 interest is calculated for one month from 30/09/2021 to 1st November 2021.

   Interest = 40,000 × 6% = 2,400 × 1/12 = **200.**

7. Accrued Interest on 31/12/2021 is calculated on unsold stock of Investment.

   Unsold stock = 1,20,000 + 20,000 +10,000 = 1,50,000 – 40,000 – 40,000 = 70,000

   - Interest is calculated for 3 months (30/09/2021 to 31/12/2021)
   - Accrued Interest = 70,000 × 6% = 4,200 × 3/12 = 1,050.

8. Calculation of Profit on sale of Investment on 1st July 2021. These sales are made from original stock of 1/01/2021.

   - Original stock of investment on 1/01/2021 was Face value Rs. 1,20,000 and Cost Value Rs. 1,18,000 and sale are made face value Rs. 40,000.
   - Hence cost of sales =

     $$\left.\begin{array}{l} 1,20,000 : 1,18,000 \\ 40,000 : \quad ? \end{array}\right\}$$

     $$= \frac{\mathbf{1,18,000}}{\mathbf{1,20,000}} \times \mathbf{40,000}$$

     = 39,333

   - Cost of sales = 39,333, Actual sales are made for Rs. 40,000
   - Profit on sales = Actual sales - Cost of sales

     = 40,000 – 39,333

     = 667.

9. Calculation of profit on sale of investment on 1st November 2021. These investments are also sold from the original stock of 1/01/2021. Selling price is Rs. 39,600. Face Value Rs. 40,000.

- Original stock of investment on 1/01/2021 was Face value Rs. 1,20,000 and Cost Value Rs. 1,18,000.
- Hence cost of sales =

  $$\left.\begin{array}{l} 1{,}20{,}000 \ : \ 1{,}18{,}000 \\ \quad 40{,}000 \ : \quad ? \end{array}\right\}$$

  $$= \frac{1{,}18{,}000}{1{,}20{,}000} \times \mathbf{40{,}000}$$

  = 39,333

- Cost of sales = 39,333, Actual sales are made for Rs. 39,600
- **Profit on sales** = Actual sales - Cost of sales

  = 39,600 – 39,333

  = **267.**

Problem No. 6

Reliance Limited holds as on 1/04/2019 Rs. 50,000 (Cost Rs. 49,000) 6% Government of India Loan as an investment on which interest is payable half yearly on 1st January and 1st July. The following purchases and sales were made out of these investments during the accounting year ended 31st March 2020.

Date	**Particulars**
1/08/2019	Purchases F.V. Rs. 10,000 @ Rs. 102 Cum- Interest.
1/12/2019	Purchases F. V. Rs. 20,000 @ Rs. 105 Ex-Interest
1/11/2019	Sales F.V. Rs. 5,000 @ Rs. 104 Cum-Interest.
1/02/2020	Sales F.V. Rs. 15,000 @ Rs. 102 Ex-Interest.

Write up Investment Account as on 31/03/2020 are to be valued at cost by First in First Out method.

Solution:

In the books of Reliance Limited

6% Government of India Loan Account

(Interest Payable 1st January and 1st July)

Date	Particular	Nominal Value	Interest	Cost	Date	Particular	Nominal Values	Interest	Cost
1/04/ 2019	To Balance b/d	50,000	750	49,000	1/07 2019	By Bank A/c	-	1,500	-
					1/11/ 2019	By Bank A/c	5,000	100	5,100
1/08/ 2019	To Bank A/c	10,000	50	10,150					
					1/01/ 2020	By Bank A/c	-	2,250	-
1/12/ 2019	To Bank A/c	20,000	500	21,000					
					1/02 2020	By Bank A/c	15,000	75	15,300
31/03/ 2020	To P&L A/c (**Balance)**	-	3,525	800					
					31/03/ 2020	By Bal. c/d	60,000	900	60,550
		80,000	**4,825**	**80,950**			**80,000**	**4,825**	**80,950**

Working Notes:

1. Calculation of Interest on opening balance of investment on 1/04/2019.

   = interest date is 1st January hence interest is calculated for three months i.e. from 1st January to 1st April.

   = 50,000 × 6% = 3,000 × 3/12= 750.

2. Calculation of Interest on 1/07/2019

   On this date we have investment costing Rs. 50,000 and last interest date was 1st January hence interest is calculated for 6 months i.e. from 1st January to 1st July.

   = 50,000 × 6% = 3,000 × 6/12 = 1,500.

3. On 1/08/2019 investment was purchased F.V Rs. 10,000 @ Rs. 102 Cum-Interest.

Principal amount of Investment (10,000 × 102%) Less: Cum-Interest (One Month Interest 1st July to 1st August) (10,000 × 6% = 600 × 1/12)	10,200 -50
	10,150

4. On 1/11/2019 investment was sold F.V Rs. 5,000 @ Rs. 104 Cum- Interest.

Principal amount of Investment (5000 × 104%) Less: Cum-Interest (Four Month Interest 1st July to 1st November) (5,000 × 6% = 300 × 4/12)	5,200 100
	5,100

5. On 1/12/2019 investment was purchased F.V Rs. 20,000 @ Rs. 105 Ex - Interest.

   Nominal value of Investment = 20,000 × 105% = 21,000.

   Ex-Interest is calculated for 5 months i.e from 1st July to 1st December

   = 20,000 × 6% = 1,200 × 5/12 = 500.

6. On 1st January 2020 interest is calculated for 6 months i.e. from 1st July to 1st January on this date we have total investment balance is available Rs. 75,000.

Opening Balance Purchase on 1/08/2019 Purchase on 1/12/2019	50,000 10,000 20,000
	80,000
Less: sales on 1/12/2019	5,000
Balance	75,000

Calculation of interest = 75,000 × 6% = 4,500 × 52 = 2,250.

7. On 1/02/2020 investment was sold F.V Rs. 15,000 @ Rs. 102 Ex - Interest.

   Nominal value of Investment = 15,000 × 102% = 15,300.

   Ex-Interest is calculated for 1 months i.e from 1st January to 1st February.

   = 15,000 × 6% = 900 × 1/12 = 75.

8. Calculation of Closing stock of investment in this problem FIFO Method is applied.

- Opening balance of investment was F.V. 50,000, Principal value Rs. 49,000 and total sales made during the year was Rs. 20,000 (5,000 + 15,000) from the original stock. Balance of investment is 30,000.
- Principal value of Rs. 30,000 investment will be

$$\left.\begin{array}{l} 50{,}000 \ : 49{,}000 \\ 30{,}000 \ : \quad ? \end{array}\right\}$$

$$= \frac{49{,}000}{50{,}000} \times \mathbf{30{,}000} = \mathbf{29{,}400}$$

- Calculation of closing balance of investment

Particular	**Face Value**	**Principal amount**
Opening Balance	30,000	29,400
Add: Purchase on 1/08/2019	10,000	10,150
Add: Purchase on 1/12/2019	20,000	21,000
	60,000	60,550

- Interest is calculate on closing balance of investment on 31/03/2020 for 3 months i.e. from 1st January to 31st March.

  = 60,000 × 6% = 3,600 × 3/12 = 900.

Problem No. 7

DPK Trust Limited has the following transactions in 6% Debentures of industrial corporations during the year ended 31/03/2020.

Date	Purchase	Date	Sales
1/04/2019	Rs. 10,000 @ Rs.102	1/08/2019	Rs. 5,000 @ Rs. 104 (Cum Interest)
1/06/2019	Rs. 20,000 @ Rs. 100 (Cum Interest)	15/09/2019	Rs. 10,000 @ Rs. 102.5 (Ex- Interest) Out of purchase from 1/09/2019
1/09/2019	Rs. 10,000 @ Rs. 104.50 (Cum Interest)		
2/10/2019	Rs. 20,000 @ Rs. 102 (Cum Interest)	1/11/2019	Rs. 40,000 @ Rs. 101.50 (Cum Interest)
1/11/2019	Rs. 25,000 @ Rs. 103		

	(Ex-Interest)	1/12/2019	Rs. 30,000 @ Rs. 103.25 (Cum Interest)

Interest is payable half yearly on 1st October and 1st April every year. Brokerage was paid at 1% on purchase and sales.

You are required to prepare 6% Debentures Account in the books of DPK Trust Limited.

Solution:

In the books of DPK Trust Limited

6% Debentures Account

(Interest Payable 1st October and 1st April)

Date	Particular	Nominal Value	Interest	Cost	Date	Particular	Nominal Values	Interest	Cost
1/04/ 2019	To Bank A/c	10,000	-	10,300	1/08 2019	By Bank A/c	5,000	100	5,050
1/06/ 2019	To Bank A/c	20,000	200	20,000	15/09/ 2019	By Bank A/c	10,000	275	10,150
1/9/ 2019	To Bank A/c	10,000	250	10,300	1/010/ 2019	By Bank A/c	-	750	-
2/10/ 2019	To Bank A/c	20,000	-	20,600	1/11/ 2019	By Bank A/c	40,000	200	40,000
1/11/ 2019	To Bank A/c	25,000	125	26,000	1/12/ 2019	By Bank A/c	30,000	300	30,375
31/03 /2020	To P&L A/c **(Balance)**	-	1,050	-	31/03/ 2019	By P & L A/c **(Balance)**	-	-	1,625
					31/03/ 2020	By Bal. c/d	-	-	-
		85,000	**1,625**	**87,200**			**85,000**	**1,625**	**87,200**

Working Notes:

1. Interest date is 1st April and on the same date 1st investment is made hence there is no interest is accrued on investment.
2. On 1st April 2019 debentures are purchased for Rs. 10,000 @ Rs. 102

   = 10,000 × 102% = 10,200 + 100 (Brokerage 1% on Rs. 10,000)

   = 10,300.
3. On 1/06/2019 investment is purchased F.V. Rs. 20,000 @ 100 Cum-Interest.

Principal Amount 20,000 × 100% Less: Cum-Interest (2 Months 1/04/2019 to 1/06/2019) (20,000 × 6% = 1,200 × 2/12)	20,000 -200
 Add: Brokerage (1% on Rs. 20,000)	19,800 200
	20,000

4. On 1/09/2019 investment is purchased F.V. Rs. 10,000 @ 104.50 Cum-Interest.

Principal Amount 10,000 × 104.50% Less: Cum-Interest (5 Months 1/04/2019 to 1/09/2019) (10,000 × 6% = 600 × 5/12)	10,450 250
 Add: Brokerage (1% on Rs. 10,000)	10,200 100
	10,300

5. On 1/08/2019 investment is sold F.V. Rs. 5,000 @ 104 Cum-Interest.

Principal Amount 5,000 × 104% Less: Cum-Interest (4 Months 1/04/2019 to 1/08/2019) (5,000 × 6% = 300 × 4/12)	5,200 100
 Less: Brokerage (1% on Rs. 5,000)	5,100 50
	5,050

6. On 15/09/2019 investment is sold F.V. Rs. 10,000 @ 102.50 Ex -Interest.

Principal Amount 10,000 × 102.50 % Less: Brokerage (1% on Rs. 10,000)	10,250 100
	10,150

Ex Interest = 10,000 × 6% = 600 × 5.5/12 (5.5 Months i.e. from 1st April to 15th September) = 275

7. Interest received on 1/10/2019 for 6 months from 1st January to 1st October.

   Total investment on this date = 10,000 +20,000+10,000= 40,000 – (sales) 5,000 -10,000 = 25,000 × 6% = 1,500 × 6/12= 750.

8. On 2/10/2019 investment is purchased F.V. Rs. 20,000 @ 102 Cum-Interest.

Principal Amount 20,000 × 102% Less: Cum-Interest (Interest is already received on 1st October)	20,400 NIL
 Add: Brokerage (1% on Rs. 20,000)	20,400 200
	20,600

9. On 1/11/2019 investment is purchased F.V. Rs. 25,000 @ 103 Ex - Interest.

Principal Amount 25,000 × 103% Add: Brokerage (1% on Rs. 25,000)	25,750 250
	26,000

Ex Interest = 25,000 × 6% = 1,500 × 1/12 = 125 (one month interest i.e. from 1st October to 1st November)

10. On 1/11/2019 investment is sold F.V. Rs. 40,000 @ Rs. 101.50 Cum-Interest.

Principal Amount 40,000 × 101.50 % Less: Cum-Interest (1Months 1/10/2019 to 1/11/2019) (40,000 × 6% = 2,400 × 1/12)	40,600 200

Less: Brokerage (1% on Rs. 40,000)	40,400 400
	40,000

11. On 1/12/2019 investment is sold F.V. Rs. 30,000 @ Rs. 103.25 Cum-Interest.

Principal Amount 30,000 × 103.25 % Less: Cum-Interest 2 1/10/2019 to 1/12/2019) (30,000 × 6% = 1,800 × 2/12)	30,975 300
Less: Brokerage (1% on Rs. 30,000)	30,675 300
	30,375

2.2.10 Check your Progress;

B) State True or False.

1) Cum- Dividend price is not the real price of investment.
2) Closing balance of investment is valued at cost or market price whichever is less.
3) Brokerage is added in the purchase of value of investment n the books of purchaser.
4) Brokerage is not deducted from the sale value of investment in the books of purchaser.
5) Ex-Interest price is more than Cum-Interest price.

2.2.11 Summary

An Investment is the purchase of goods that are nor consumed today but are used in the future to create wealth. In finance, an investment is a monetary asset purchased with the idea that the asset will provide income in the future or will later be sold at a higher price for profit. Investment is an asset which generates an income. Individuals, organizations, firms invest money in different types of assets like real estate, bank deposits, securities such as Govt. securities, debentures, bonds, shares etc. to earn amount of income. Income from investment may be in the form of interest of dividend.

Investment Accounting means the process of recording transactions relating to each type of securities in a separate account in order to make available ful information about that type of security.

2.2.12 Answers to check your progress.

A) 1) Real Account. 2) Cost

3) Nominal/face Value 4) Long Term Investment

5) Nominal fair Value 6) 175

7) 1,22,400

B) True: 1,2,3 False: 4,5

2.2.13 Self Assessment Questions:

1. Define Investment Accounting. State the different types of investment.
2. Explain Ex-Interest and Cum-Interest.
3. Explain Current Investment and Long Term Investment.

2.2.14 Exercise:

Problem No. 1.

Mr Kishor furnishes the following details relating to his holding in 6% Government bonds

Date	Particular
1/01/2024	Opening Balance: Face Value Rs. 1,20,000, Cost Rs. 1,18,000
1/03/2024	200 units purchased Ex-Interest at Rs. 98.
1/07/2024	Sold 400 Units Ex-Interest out of the original holdings at Rs. 100
1/10/2024	Purchased 100 units at Rs. 98 Cum-Interest.
1/11/2024	Sold 400 Units Ex-Interest at Rs. 99 out of the original holdings.

Interest dates are 30th September and 31st March Each year. Mr. Kishor closes his books every 31st December.

Show the Investment Account as it would appear in his books.

Problem No. 2

SGM Trust Limited holds as on 1/04/2019 Rs. 1,00,000 (Cost Rs. 98,000) 6% Govt. of India Loan as investment on which interest is payable half yearly on 1st January and 1st July. The following purchases and sales were made out of these investments during the accounting year ended 31/03/2020.

1/082019	Purchases	F.V. Rs. 20,000 @ Rs. 102 Cum-Interest
1/12/2019	Purchases	F.V. Rs. 40,000 @ Rs. 105 Ex-Interest
1/11/2019	Sales	F.V. Rs. 10,000 @ Rs. 104 cum-Interest
1/02/2020	Sales	F.V. Rs. 30,000 @ Rs. 102 Ex-Interest

Write up Investment Account. Investments as on 31/03/2020 are to be valued at cost by first in First Out Method.

Problem No. 3

On 1st January 2024 XYZ Limited held 30,000 6% Government Securities standing in the books at Rs. 28,680. Interest is payable on 31st March and 30th September each year. On 1st February 2024 a further Rs. 15,000 securities were purchased @ 97 ex-interest and on 30th April 2024 a further Rs. 12,000 of the securities were purchased @ 98 cum-interest.

On 1st June Rs. 9,000 of the securities were sold at 99 ½ ex- interest and on 30th November Rs. 6,000 of the securities were sold at 101 cum-interest.

Show the Investment Account in the books of XYZ Limited, closing it on 31st December 2024.

Problem No. 4

Azad Finance company Limited made the folloeing transaction of 12% Maharashtra Govt. Loan during the year 2023-24. Interest is payable half yearly on 30th June and 31st December.

a) Purchases of face value Rs. 50,000 at par on 1/04/2023 cum-interest.

b) Sales Face Value Rs. 25,000 at par on 1/05/2023 cum-interest.

c) Purchases of Face Value Rs. 1,00,000 at par on 1/09/2023.

d) Sales of the Face Value Rs. 50,000 at par on 1/02/2024.

Prepare 12% Investment Account for the year ended 31/03/2024.

Problem No. 5

SMK Trust Limited has the following transactions in 6% Debentures of industrial corporations during the year ended 31/03/2020.

Date	Purchase	Date	Sales
1/04/2019	Rs. 40,000 @ Rs.102	1/08/2019	Rs. 20,000 @ Rs. 104 (Cum Interest)
1/06/2019	Rs. 80,000 @ Rs. 100 (Cum Interest)	15/09/2019	Rs. 40,000 @ Rs. 102.5 (Ex- Interest) Out of purchase from 1/09/2019
1/09/2019	Rs. 40,000 @ Rs. 104.50 (Cum Interest)		
2/10/2019	Rs. 80,000 @ Rs. 102 (Cum Interest)	1/11/2019	Rs. 1,60,000 @ Rs. 101.50 (Cum Interest)
1/11/2019	Rs. 1,00,000 @ Rs. 103 (Ex-Interest)	1/12/2019	Rs. 1,20,000 @ Rs. 103.25 (Cum Interest)

Interest is payable half yearly on 1st October and 1st April every year. Brokerage was paid at 1% on purchase and sales.

You are required to prepare 6% Debentures Account in the books of SMK Trust Limited.

Problem No. 6

Jaysingpur Investment Limited hold 1000 15% Debentures of Rs. 100 each in Kolhapur Industries Ltd. as on 1st April 2020, at a Cost of Rs. 1,05,000. Interest is payable on 30th June and 31st December each year.

a) On 1st May 2020, 500 debentures are purchased cum-interest at Rs. 53,500.

b) On 1st November 2020, 600 Debentures are sold ex-interest at Rs. 57,300.

c) On 30th November 2020, 400 Debentures are purchased ex-interest at Rs. 38,400.

d) On 31st December 2020, 400 Debentures are sold at Cum-Interest for Rs. 55,000.

Prepare Investment Account valuing holding on 31/03/2021 at cost applying FIFO Method.

❑❑❑

Unit-3

Value Added & Economic Value Added

Index:

3.0 Objectives:

1. To understand the concept of value added statements.
2. To study the concept of Economic Value Added.
3. To know preparation of statement showing computation of Economic Value Added.

3.1 Introduction of Value Added:

EVA is management tool and EVA is a critical tool for measurement of financial performance of the company but it useful for investors, shareholders etc. Returns are greater than cost of capital increase the value of the company and returns are less than cost of capital decrease the value of the company. Positive as well as negative EVA is effect to determine dividend policy decision making. EVA is useful for increase the market value of the company because after deduction of Interest, tax, depreciation. Profit has assumed for minus cost of capital. Calculation of EVA in annual reports of the company is benefited for who are increased for investing money by way of equity shares as well as debt.

Today, business planning is most important in profit making organization or any other related companies. In 1991 LPG policy has been adopted by India and after that year huge corporate sector are increased in India but its negative impact on natural resources. Presently corporate sector in India EVA concept is more useful for measuring real profit of the company after charging cost of capital. Positive EVA increase MVA and increase the value of the company automatically increase shareholders wealth vice-versa. EVA is internal measure of corporate performance of the company and external measure of corporate performance of the company.

Value added is an economic term to express the difference between the value of goods and the cost of materials or supplies that are used in producing them. Value added is thus defined as the gross receipts of a firm minus the cost of goods and services purchased from other firms. Value Added statement shows the different between income and cost of output. Value added statements are helps to external users in making economic decision and also helpful in predicting corporate earnings and dividends as well as maximization of shareholders value by calculating the EVA metrics. Maximization of shareholders value is a socio-economic factor and in that economic factor is more important because company or any firm business in depends upon their contribution in a particular company.

The main thrust of financial accounting development in the recent decades has been in the area of how we measure income rather than whose income we measure. The common belief of the traditional accountants that profit is a reward of the proprietors has been considered as a very narrow definition of income. This was so because previously the assets were assumed to be owned by the proprietor and liabilities were thought as proprietor's obligations. This notion of proprietorship was accepted and practiced so as long as the nature of business did not experience revolutionary changes.

However, with the emergence of corporate entities and the legal recognition of the existence of business entities separate from the personal affairs and interest of the owners led to the rejection of proprietary theory. Value added is now reported in the financial statements of companies in the form of a statement. Value Added Statement is aimed at supplementing a new dimension to the existing system of corporate financial accounting and reporting, it is called as value added statement.

3.2 Presentation of Subject Matter:

3.2.1 Meaning of Value Added:

This statement shows the value created; value added (value generated) and the distribution of it to interest groups viz. Employees, shareholders, promoters of capital and government. Since VAS represents how the value or wealth created or generated by an entity is shared among different stakeholders, it is significant from the national point of view. ICAI, 1985 has defined Value Added Statement as a statement that reveals the value added by an enterprise which it has been able to generate, and its distribution among those contributing to its generation known as stakeholders. For the purpose of calculating the amount of value added and its distribution, the value added statement is prepared. The main concern of this statement lies in deriving a measure of wealth (i.e. value), the entity has contributed to the society through the collective efforts of the various stakeholders. This statement is prepared and published voluntarily with the annual financial reports. Thus the presentation of a statement of value added aids in disclosure of value added by an enterprise. Value added statement may be defined as a statement, which shows the income of the company as an entity and how that is divided between the people who have contributed to its creation.

3.2.1.1 What is Value Added?

The term value added may be simply defined as a positive difference between the value of goods or services produced (i.e. the value of output) and the value of services purchased (i.e. the value inputs) from other firms in producing output. In equation form it can be stated as follows;

Value Added = Value of output- Value of inputs

The Value Added may be classified into two categories; Gross Value added and Net Value added.

A) Gross Value Added:

The Gross Value Added refers to sales plus income from other services less bought in materials and services purchased from outside suppliers.

B) Net Value Added:

The Net Vale added refers to the difference between gross value added and depreciation. In other words, Net Value added is the sum of the value added o employees, to providers of loan capital, to government and to owners.

3.2.1.2 Treatment of Certain Items:

Treatment of some items for value added statement preparation

1. **Consumption of raw materials:** Raw material consumption (RMC), measures the total amount of raw materials required to produce the goods used by the economy (also called material footprint).
2. **Consumption of stores:** Stores consumed basically means the consumption of consumable items. For example: In a sports club, sports items are consumable items. In a library, magazines are consumable items.
3. **Increase in Stock:** By this we mean that share prices change because of supply and demand. If more people want to buy a stock (demand) than sell it (supply), then the price moves up.
4. **Other manufacturing Expenses:** Manufacturing costs fall into three broad categories of expenses: materials, labor, and overhead.

5. **Audit Fees:** The cost of external audits (audit fees) refers to the amount of compensation for services performed by external auditors.
6. **Provision for doubtful debts:** The provision for doubtful debts is the estimated amount of bad debt that will arise from accounts receivable that have been issued but not yet collected.
7. **Interest on working capital loans from banks:** Working capital loans are usually only applicable to small and medium enterprises and the usual period of the loan is 6-12 months.
8. **Interest on bank overdraft:** The interest rate on overdrafts is usually a little higher than the rate charged on personal loans and can range from about 11% to about 15%. The rate can change.

Thus, financial statement showing how much wealth (value added) has been created by the collective efforts of capital, employees, consumption of raw material, consumption of stores, audit fees, interest etc.

3.2.1.3 Objectives of Value Added Statements:

The main objectives of preparing Value Added Statements are:

1. To indicate the value or wealth created by an enterprise. In a way it shows the wealth creating ability of the organization.
2. To show the manner in which the wealth created is distributed amongst the employees, shareholders and the government. The pattern of distribution of value added can be clearly understood.
3. To indicate the organizations contribution to national income.
4. To use it as a basis of making inter-firm and intra-firm analysis, for preparation of financial plans and targets, for developing productivity linked incentive schemes.
5. To disclose the value added by a firm during a period of time.
6. To indicate the wealth created by an enterprise for the purpose of evaluating and measuring the performance of the business unit.
7. To study the pattern of distribution of value added to all the stakeholders including employees, providers of loan capital, governments and owners.

3.2.1.4 Advantages of Value Added Statements:

The following are some of the advantages of Value Added Statements:

1. Reporting on value added statement improves the attitude of employees towards their employing companies. This is because the VA statement reflects a broader view of the companies' objectives and responsibilities.
2. Value added statement makes it easier for the company to introduce a productivity linked bonus scheme for employees based on value added. Trends in value added ratios comparisons with other companies and international comparisons may be useful.
3. Value added provides a very good measure of the size and importance of a company. To use sales figures or capital employed figures as a basis for company ranking can cause distortion. This is because sales may be inflated by large bought-in expenses or a capital intensive company with a few employees may appear to be more important than a highly skilled labour intensive company
4. Value added statement links a company's financial accounts to national income. A company's value added indicates the company's contribution to national income.
5. Finally value added statement is built on the basic conceptual foundation which is currently accepted in balance sheet and income statements. Concepts such as going concern, matching, consistency and substance over form are equally applicable to the value added statement.

3.2.1.5 Limitations of Value Added Statements

It is argued that although the Value Added statements show the application of value added to several interest groups (like employees, government, shareholders, etc.), the risk associated with the company is only borne by the shareholders. In other words, employees, government and outside financers are only interested in getting their share in value added, but, when the company is in trouble the entire risk associated there in is borne only by shareholders. Therefore, the concept of showing value added as applied to several interested groups is being questioned by many academics. They advocated that since the shareholders are ultimate risk takers, the residual profit remaining after meeting the obligation of outside interest group should only be shown as value added accruing to the shareholders. However, academics have also admitted that from over-all point of view value added statement may be shown as supplementary statement of financial information. But in no case can the value added statement substitute the traditional income statement (i.e. Profit and loss account). Another contemporary criticism of value added statement is that such statements are non-standardized. However, this practice of non-standardization can be effectively eliminated by bringing out an accounting standard on value added. Therefore, this criticism is a temporary phenomenon. Thus, along with the advantages; the value added statements embody certain limitations also. These limitations are as follows:

1. Preparation and presentation of value added statement may lead to information overload and confusion, as an ordinary employee reading his company's corporate annual report may not be able to reconcile the value added statement with the earnings statement.
2. Another limitation of Value added statement is that it raises a danger that management may take the maximization of value added as their goal i.e. the inclusion of the value added may wrongly lead management to pursue maximization of firms value.
3. Another argument against a value added statement is that its inclusion in the corporate annual report would involve extra work, therefore, extra costs and delay and also a slight loss of confidentiality in view of the additional disclosure involved.
4. The most severe limitation of value added data emerges from lack of any uniformity and consistency amongst different companies in the preparation and presentation of Value Added statements. Value added statement is flagrantly standardized.
5. Since there are various methods of calculating value added, it is difficult to make inter-firm comparisons. Even intra-firm comparison is not possible if the treatment of these items is changed in the subsequent years.
6. Value Added statements may lead to confusion especially in the cases where wealth or value added is increasing while earnings are decreasing.

In spite of these limitations, it may be said that the value added statement brings about certain changes in emphasis rather than change in the content in the traditional financial statement. Thus it is considered as a valuable means of social disclosure.

3.2.1.6 Preparation of Value added Statement:

A. Preparation of Value Added Statement for Manufacturing Concern:

ABCD Private Limited Value Added Statement For the year ended 31st March, 2020		
Particulars	**Amount (Rs.)**	**Amount (Rs.)**
Sales		xxxxx
Less : Cost of Bought in Material and services		
1. Consumption of raw material	xxxx	
2. Consumption of stories	xxxx	
3. Increase in stock	xxxx	
4. Audit Fees	xxxx	
5. Provision for doubtful debts	xxxx	
6. Interest on working capital loans from banks	xxxx	
7. Interest on bank overdraft	xxxx	
8. Other Manufacturing Expenses	xxxx	xxxxx
Value added by Manufacturing and trading activities		**xxxxx**
Add : Other Income		xxxxx
Gross/ Total Value Added		**xxxxx**
Less : Depreciation		xxxxx
Net Value Added		**xxxxx**
Application of Value Added:		
To Pay Employees Salaries, Wages, Bonus, Gratuities and other Benefits		xxxxx
To Pay Directors		xxxxx

Salaries, remuneration and Commission		
To Pay Government Income Tax, Wealth Tax, Corporation Tax, Tax on distributed profits, Cess and local Taxes		xxxxx
To Pay Providers of Capital Interest on debenture, Interest on Borrowings, Interest on fixed Loan from Financial Institutions, Equity Dividend , Preference Dividend		**xxxxx**
To Provide for Maintenance and Expansion of the Company Depreciation, Retained Profit, General Reserve, Fixed Assets, Replacement Reserve, Deferred Tax Account		xxxxx
		xxxxx

B. Value Added Statement for Service Concern:

XYZ Company Ltd

Value Added Statement

for the year ended 31st March ……

Particulars	**Amount**
A) Generation of Value Added: Sales/Turnover (Including excise duties and sales tax excluding Returns, rebates & discounts etc.)	xxxx
B) Stock of semi-finished and finished goods	xxxx
Production Value Add: Income from services	xxxx xxxx
 Less : Bought-in-goods and services purchased from outsiders	xxxx xxxx
Gross Value Added (GVA)	xxxx
Less : Depreciation and deferred Revenue expenses	xxxx
Net Value Added (NVA)	xxxx
Application of Value Added:	xxxx

Receipt by Workers/Employees Receipt by Providers of Loan Capital Receipt by Government Receipt by Owners	
Net Value Added (NVA)	xxxx

- **Steps of Calculation of EVA**

Items	**Rs. (Cores)**
Net sales	xx
Less- Operating Expenses	xx
Gross Operating Income	xx
(GOI/PBDIT)	xx
Less- Depreciation	xx
EBIT	xx
Less- Interest	xx
PBT	xx
Less- Tax	xx
PAT	xx
NOPAT	xx
Less- Cost of Capital	xx
EVA	**xxx**

- **Example of Value Added Statement:**

Following is the format of the statement of Value Added explained with an example.

Particulars	**Amount (Rs.)**
Sales Revenue	1000
Less: Cost of bought in goods and services	200
Value Added	**800**
Application of Value Added	

Employee Benefits	250
To capital providers (Creditors and Lenders)	100
Taxes	100
Value retained (depreciation and expansion of business)	350
Value Added	**800**

3.2.2 Economic Value Added (EVA):

Economic Value Added (EVA) is recent phenomena in corporate world. It is popular particularly in USA, UK and European countries where companies are using EVA as modern measure of performance. EVA is also known as shareholders value added. It is used as an internal as well as external performance measure because it is consistent with the organizational objective of shareholder's value creation. It is an accounting-based measure of operating performance. Its aim is to provide management with a measure of their success in increasing shareholder's wealth. It is both a measure of value and a measure of performance. The term EVA is registered trade mark of Stern Stewart and Company USA. It is a strong tool for business planning and it is better approach than profit indicator based on profit after-tax. It explains clear surplus of the company. It effectively helps to explain the ability of a company to generate clear surplus and it is spread of the company. It is a performance measure which aligns internal process, business strategies and employee behavior in pursuit of value creation potential. It is useful for making decisions in company which improves the profitability through improving the capital turnover of the company. EVA is reliable guide to understand the firm's value. It is useful to measure the financial performance of the company or any firm, organization etc. EVA is important for the development of the company's overall financial performance. EVA is a real result of companies' financial performance. EVA is new performance measure in corporate world and it is useful for maximizing shareholders value. It is a new way of return measurement. EVA helps to generate the value for shareholders. It is most important and significant contributions to business financial planning. Many of the conventional measures are available to measure the organizational value. Recently EVA is a new measure which helps to an entire organization. EVA is developed by Joel M. Stern and G. Bennett Stewart and company. EVA is significant to companies for improving profitability and to identify the relationship between EVA and other conventional measures of performance. EVA is better correlated with stock returns as compared to conventional performance measures.

3.2.2.1 Meaning of EVA:

Economic value Added is calculated on the basis of accounting profit and economic capital. EVA means economic earnings minus economic capital. Economic capital means debt and equity. Recently, Maximization of shareholders wealth is becoming in the present corporate world and it is a necessary to increase the value of the company. The company's view, EVA model is more benefited by maximization of shareholders wealth because no. of investors, shareholders who has contributed to operate the company so, it is necessary to use this model. EVA is modern financial performance measure. Hence, it is stated that the economic value added means "excess profit of a firm after charging cost of capital".

- **What is Economic Profit?**

A company adds value to its business over a period of time when it has generated profit in excess of its cost of capital, that is , the cost of the sources of funds the profit derived, after taking into consideration both the explicit and implicit costs of a business generating the profit, is called the 'economic profit'. In other words 'economic profit is the amount of value added in a period and is referred as the economic value added'.

3.2.2.2 Utility of Economic Value Added:

EVA is Net Operating Profit after Taxes (NOPAT) less a capital charge that latter being the product of the cost and the economic capital

EVA = NOPAT – (TCE x WACC)

Where,

NOPAT = Net Operating Profit After tax

TCE = Total Capital Employed

TCE = Sum of the shareholders fund as well as loan fund but does not include investments outside the business.

WACC = Weighted Average Cost of Capital

WACC = (Cost of Equity x % Equity) + (Cost of Debt x % of Debt)

A. Return on Investment (ROI) or Return on Capital Employed (ROCE):

Return on investment or capital employed is the overall profitability or key profitability ratios. A performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments. This is the most commonly used measure of corporate performance in terms of profits. The profitability of a firm can be analyzed from the total funds employed in the firm.

$$\text{Return on Investment} = \frac{\text{Profit Before interest,taxes and Dividend}}{\text{Capital Employed}} \times 100$$

B. Cost of Capital:

"Cost of capital is the minimum rate of earnings or the cut-off rate of capital expenditures".

C. Cost of Equity:

Cost of equity capital is most difficult to ascertain due to absence of any legal obligation to pay explicitly stated cost. However, it does not mean that the cost of equity is zero.

D. Weighted Average Cost of Capital (WACC):

Weighted Average Cost of Capital is known as overall cost of capital. WACC is the weighted average of the cost of various sources of finance, weight being the market value of each source of finance outstanding. A firm may procure long–term funds from various sources like equity share capital, preference share capital, debentures, term loans etc.

E. EVA and Shareholders Value Creation:

EVA is a measure of corporate value creation. EVA is a measure of financial performance and it helps to measure shareholders value creation after charging cost of capital. Positive EVA helps to create shareholders value but negative EVA destroyed value of the shareholders. Return on equity is more useful to maximize the shareholders' value of the company. Equity shareholders are value creator.

F. Percentage of EVA on Average Capital Employed (EVACE):

It shows that how much value has been added by the company at given level of to make decision for market response and financial performance of capital employed.

$$EVACE = \frac{\text{EVA}}{\text{Capital Employed}} \times 100$$

EVA expressed in terms of percentage of average capital employed it is known as EVACE. This ratio is useful to policy maker to absolute measure of financial performance.

G. EVA and Shareholders Wealth:

Shareholders value is measured by returns of the company. EVA is helps to explain the market value of the total invested capital (equity and debt) Financial theory of the present study shows that Market value of the total capital employed (sum of equity and debt) is depends upon the Economic Value Added.

3.2.2.3 Application of EVA:

Economic value added (EVA) is a measure of a company's financial performance based on the residual wealth calculated by deducting its cost of capital from its operating profit, adjusted for taxes on a cash basis.

1. EVA is strong tool for business planning: The EVA approach defines value as that which is left from profit once the capital charge has been deducted. Capital charge amounts to what providers of capital expect to get as return on their investment.
2. EVA is good for investor: EVA assesses the performance of a company and its management through the idea that a business is only profitable when it creates wealth and returns for shareholders, thus requiring performance above a company's cost of capital. EVA as a performance indicator is very useful.
3. EVA is a popular performance measure: EVA, for economic value added, is an estimate of a firm's true economic profit. EVA computes profit according to economic principles and for managing a business, measuring its value and making peer comparisons, and not to follow accounting conventions.
4. Valuation of goodwill and shares: The valuation of goodwill is often based on the customs of the trade and generally calculated as number of year's purchase of average profits or super-profits.
5. Formulation of EVA linked employee compensation plan: Economic Value Added (EVA) is important because it is used as an indicator of how profitable company projects are and it therefore serves as a reflection of management

performance. EVA is a measure of a firm's profit after subtracting the cost of all capital employed. It is defined as the current-period, after-tax economic earnings net of a charge for the.

EVA is used to measure the value a company generates from funds invested in it. However, EVA relies heavily on invested capital and is best used for asset-rich companies, where companies with intangible assets, such as technology businesses, may not be good candidates.

3.2.2.4 Suggestions to Improve EVA:

A company can increase revenues by increasing the price for its goods or services or it can sell more goods. A company can also increase its EVA by reducing its capital costs by improving efficiency and reaching economies of scale. Followings are the suggestion to improve the EVA;

1. Increasing NOPAT with the same amount of capital
2. Reducing the capital employed without affecting the earning i.e. discarding the unproductive assets.
3. Investing in those projects that earn a return greater than the cost of capital.
4. By reducing the cost of capital, which means employing more debt, is cheaper than equity or preference capital.

The EVA concept is very closely related to the NPV concept. The present value of an investment's annul EVA stream is the same as its NPV.

3.2.2.5 Superiority of EVA:

EVA is a superior measure of corporate performance and reflects all the dimensions by which management can increase value. It helps in creation of wealth on the following grounds:

1. EVA is most directly linked to the creation of shareholders wealth over time.
2. The mechanism of EVA of forces management to expressly recognise its cost of equity in all its decisions from the board of room to the shop floor.
3. An EVA financial management system removes all the inconsistencies resulting from the use of different financial measures for different corporate functions under the typical traditional financial management system.

4. EVA compensation system ties management's interest with those of shareholders.
5. EVA framework provides a clear perception of underlying economics of a business and enables managers to make better decisions.
6. EVA is used to assess the likely impact of competing strategies on shareholders wealth.
7. EVA is also fits well with the concept of corporate governance.
8. EVA also helps in brand valuation.

3.2.2.6 Importance of Economic Value Added:

Economic Value Added (EVA) is important because it is used as an indicator of how profitable company projects are and it therefore serves as a reflection of management performance. The idea behind EVA is that businesses are only truly profitable when they create wealth for their shareholders, and the measure of this goes beyond calculating net income. Economic value added asserts that businesses should create returns at a rate above their cost of capital. The economic value calculation has many advantages. It succinctly summarizes how much and from where a company created wealth. It includes the balance sheet in the calculation and encourages managers to think about assets as well as expenses in their decisions. However, the seemingly infinite cash adjustments associated with calculating economic value can be time-consuming. And accrual distortions can still affect the measure, particularly when it comes to depreciation and amortization differences. Also, economic value added only applies to the period measured; it is not predictive of future performance, especially for companies in the midst of reorganization and/or about to make large capital investments.

1. **Correct Profit:** Conventional measures are show good profits but are less than their full cost of capital. EVA looks at the profit correctly by also appropriating a charge for all including equity capital.
2. **Managing Assets:** Shareholders returns have been measured in terms of size rather than quality. EVA makes managers care about managing assets as well as income, and helps them properly assets the trade-off between the two as a results managers use assets more diligently and prudently.

3. **Change the Behaviours:** EVA aligns employee behaviour with wealth creation. It can be used to separate employee incentive compensation from the traditionally accounting measures.
4. **Combine the income statement and the balance-sheet:** It helps to discourage managers from achieving short-term profits at the expense of long-term goals.
5. **Easy to understand:** EVA is most important concept for making division. It is performance measure and motivator is that it is very easy to understand.
6. **Management System:** EVA can give companies a better focus on how they are performing, its true value comes in using it as the foundation for a comprehensive financial management system that encompasses all the policies, procedures methods and measures that guide operations and strategy.

Thus, the idea behind EVA is that businesses are only truly profitable when they create wealth for their shareholders, and the measure of this goes beyond calculating net income. Economic value added asserts that businesses should create returns at a rate above their cost of capital.

3.2.2.7 Limitations of EVA:

The economic value added summarizes how much a company created wealth. By including the balance sheet in the calculation, EVA encourages managers to consider assets as well as expenses in their decisions.

1. The seemingly infinite cash adjustments associated with calculating economic value can be time-consuming.
2. Accrual distortions can still affect the measure, particularly when it comes to depreciation and amortization differences.
3. EVA also only applies to the measured period and isn't predictive of future performance.
4. EVA is especially true for companies that are in the midst of reorganization and/or about to make large capital investments.

3.2.2.8 Preparation of Statement Showing Computation of EVA:

The EVA (Economic Value Added) is an indicator of profitability and a measure of financial performance, based on residual wealth. It is the excess profit above the cost of capital, generated by the business, adjusted for taxes, and presented on a cash basis. The consulting firm Stern Value Management developed the method. It represents the difference between the Rate of Return and Cost of Capital and measures the value generated by invested capital.

Illustration 1:

Indian Commercial Bank has a criterion that it will give loan companies that have an economic value added greater than zero for the past three years on average. The bank is considering lending money to a small company that has the economic value characteristics shown below. Does that meet the bank criterion for a positive economic value added? The data relating to the company is as follows:

1. Average operating income before tax equals Rs. 50,00,000 per year for the last three years.
2. The average tax rate for 3 years equals to 35.875%.
3. The average total assets of company over the past three years equals Rs. 1,50,00,000.
4. The weighted average cost of capital appropriate for the company equals 10% which is applicable to all three years.
5. The company average current liabilities over the past three year equals Rs. 30,00,000.

Solution:

Computation of Economic Value Added

	Particulars	**Rs.**
a	Net Operating Profit after taxes (WN # 1)	32,06,250
b	Less : Cost of Capital (WN # 3)	12,00,000
c	**Economic Value Added**	**20,06,250**

Decision: The Company qualifies for the loan because the economic value added is greater than zero.

WN # 1: Net Operating Profit after Tax

Particulars	Rs.
Operating Income before Tax	50,00,000
Less: Tax@ 35.875%	17,93,750
NOPAT	**32,06,250**

WN # 2: Capital Employed:

Particulars	Rs.
Average Total assets	1,50,00,000
Less: Average Current liabilities	30,00,000
Total capital Employed	**1,20,00,000**

WN # 3: Cost of Capital:

Cost of Capital = Capital Employed x Weighted Average Cost of Capital

= Rs. 1, 20, 00,000 x 10%

Cost Of Capital = 12, 00,000

Illustration 2:

Consider a firm that has existing assets in which it has capital invested of Rs. 100 crores. The after tax operating income on assets-in place is Rs. 15 crore. The return on capital employed of 15% is expected to be sustained to perpetuity, and company has a cost of capital of 10%. Estimate the present value of economic value added (ECA) of the firm from its assets-in-place.

Solution :

Economic Value Added = (ROCE-WACC) x Capital Employed

Capital Employed = Rs. 100 crores.

After Tax Operating income on assets in place Rs. 15 Crores.

Return on Capital Employed (ROCE) = 15%

Weighted Cost of Capital (WACC) = 10%

EVA = (0.15-0.10) x Rs. 100 Crores

= Rs. 5 Crores

Present Value of EVA of the firm from its assets in-place (at a cost of capital 10% in perpetuity)

= Rs. 5 Crores/0.10

= Rs. 50 Crores

➢ **Check Your Progress:**

A. Multiple Choice Questions:

1. Relationship between Economic Value Added (EVA) and Net Present Value (NPV) is considered as…..

   A. Valued relationship B. Economic relationship

   C. Direct relationship D. Inverse relationship

2. In capital budgeting, positive net present value results in…..

   A. Negative economic value added B. Positive economic value added

   C. Zero economic value added D. Percent economic value added

3. In internal rate of returns, discount rate which forces net present values to become zero is classified as…….

   A. Internal Rate of Return B. External Rate of Return

   C. Positive Rate of Return D. Negative Rate of Return

4. EVA Stands for…….

   A. Economic Value Added B. Economic Value Application

   C. Emergency Value Added D. Economic Value Advance

5. A project whose cash flows are more than capital invested for rate of return then net present value will be…….

   A. Positive B. independent C. Negative D. zero

6. A formula of after-tax component cost of debt is……

   A. Interest rate-tax savings B. Marginal tax-required return

   C. Interest rate + tax savings D. Borrowing cost + embedded cost

B. Statements of True or False:

1. Economic value added also known as economic profit.

   A. True B. False

2. Residual income is another term for economic value added.

   A. True B. False

3. Economic Value Added is the net profit of the firm adjusted for the debenture.

   A. True B. False

4. Economic Value Added is important because it is used as an indicator of how profitable company projects are and it therefore serves as a reflection of management performance.

   A. True B. False

5. Economic Value Added is useful as a way to measure a company's economic success, or lack thereof, over a specific period of time.

   A. True B. False

6. Economic value added is a financial metric based on residual wealth, calculated by deducting a firm's cost of capital from operating profit.

   A. True B. False

7. EVA = NOPAT – (Capital X Cost of Capital)

   A. True B. False

8. Economic value added is a financial measurement of the return earned by a firm that is in excess of the amount that the company needs to earn to appease shareholders.

   A. True B. False

9. Market Value Added is a measure that reveals the financial performance of a business based on its residual income.

   A. True B. False

10. Cost of capital of an investor, in financial management, is equal to return, an investor can fetch from the next best alternative investment.

   A. True B. False

3.3 Summary:

EVA is useful as a way to measure a company's economic success, or lack thereof, over a specific period of time. Market value added is useful as a wealth measure, assessing the level of value that a company has built up over a period of time. Economic value added (EVA) is common ways an investor can assess a company's value. It is useful as a way to measure a company's economic success, or lack thereof, over a specific period of time. EVA is vital tool to measure of corporate performance. Economic Value Added is transfer of accounting information in to economic reality and it is differ from other conventions measures. It is useful to understand by company managers to take investment decision and maximization of shareholders wealth. Theoretically, EVA is better represents the market value of company in comparison to conventional performance measure and it is useful in explaining the market value of sample companies. Adoption of EVA measure is more useful for developing country. EVA is applied metric to understand and measure the financial performance of the company. EVA is a key technique to measure performance of the company. It is unique tool of measurement of the company. EVA is more appropriate tool for measuring financial performance. EVA is better represents the market value of the company as compared to conventional performance measures.

3.4 Terms to Remember:

1. **Value Added:** The term value added may be simply defined as a positive difference between the value of goods or services produced.
2. **Economic Value Added:** Excess profit of a firm after charging cost of capital.

3. **Gross Value Added:** The Gross Value Added refers to sales plus income from other services less bought in materials and services purchased from outside suppliers.

4. **Net Value Added:** The Net Vale added refers to the difference between gross value added and depreciation.

5. **Benefits of EVA:** EVA complements financial data from various other methods of business valuation and assessment.

6. **Advantages of EVA:** The main advantage of using EVA as a metric for performance appraisal is that it takes into consideration all the costs including the cost of equity capital which is ignored in normal accounting.

7. **Economic Profit:** An economic profit or loss is the difference between the revenue received from the sale of an output and the costs of all inputs used, as well as any opportunity costs.

8. **Value:** Value is a measurement of the shareholders wealth or it is worth of the company, industry, business etc.

9. **Weighted Average Cost of Capital (WACC):** Weighted Average Cost of Capital is known as overall cost of capital.

10. **Cost of Equity Capital:** Cost of equity is an opportunity cost and it is equal to the total return. Average equity capital and rate of cost of capital both are useful to calculate cost of capital. Cost of equity is not an explicit cost like cost of debt.

11. **Cost of Debt Capital:** Debt is an external source of capital which is collected from borrowers. Cost of debt means rate of interest which is paid by borrowers. It is calculated on the basis of borrowing funds.

12. **Return on Capital Employed (ROCE):** It is also called as Return on Investment (ROI), ROI consist with two elements one is profit margin and second is investment turnover of the company.

3.5 Answers to Check Your Progress:

Section A: 1. – C, 2. – B, 3. – A, 4. - A, 5. - A

Section B: 1. – A, 2. – A, 3. – B, 4. - A, 5. – A, 6.-A, 7.- A, 8.-A, 9.-B, 10-A

3.6 Exercise:

1. What is concept of value added Statement?
2. What is mean by Economic Value Added and Briefly State its application and limitations?
3. Explain the Importance of Economic Value Added.
4. Write Short note on:
   a. Gross Value Added
   b. Net Value Added
   c. Utility of EVA
   d. Economic Profit
5. 'A' company summarized income statement for the past two years are shown below;

Particulars	**2019**	**2020**
Operating Profits	7500	6500
Interest Expenses	2000	1800
Profit before Tax	7500	6600
Tax at 25%	1575	1350
Profit after tax	6125	5450

Calculate the economic value added statement.

6. 'PQR' company summarized income statement for the past three years are shown below;

Particulars	**2017**	**2018**	**2019**
NOPAT	9200	15230	18040
Capital Invested	25000	40000	65000
WACC	7.2%	7.8%	7.10%
Finance charges	18000	31200	46150

Calculate the economic value added statement.

7. Calculate the economic value added statement with using following information:

Particulars	**Debt (2019)**
Earnings before interest	380000
Less : Interest	100000
Net Income	280000
Financial Charges	70000
Net Income	210000
Less: Cost of Equity Capital (10%)	21000

8. Calculate the Economic value added statement with using following information:

Particulars	**Amount**
EBIT	400000
Less: Interest on debentures @10%	40000
EBT	360000
Less : Tax on 20%	72000

Preference dividend 10%, 20% market rate of returns on 40000 equity shares @ 10 each i.e. 400000 x 20%

3.7 Reference for further Study:

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Unit-4

Underwriters' Accounts

Index :

4.0 Objectives:

After Studying this unit, students shall be able to-

1. Understand the concept of Underwriters Accounts
2. Explain and calculate the Underwriters Commission
3. Prepare accounts of Underwriters.

4.1 Introduction

Underwriting means guaranteeing to subscribe to an agreed number of shares or debentures for a certain consideration. The public companies enter into underwriting arrangements when it goes for IPO. The person or institution who underwrites the issue is called "underwriters and the commission so paid is known as "Underwriting Commission".

In Public Ltd. companies, a minimum subscription must be received in order to name that issue as a successful one. If a company goes in for an initial public offer (IPO), it may face certain uncertainty about whether its offer of shares or other securities will be subscribed in full or not. When the public issue does not get fully subscribed, the project for which the funds are being raised cannot be implemented. As per law, it is required that if the company is not able to collect 90% of the offer amount, then it needs to compulsorily return the money to those who have subscribed to the shares. Companies to ensure minimum subscription take the help of the procedure called underwriting. If the whole or a certain portion of the shares or debentures of the company is not applied for by the public, the underwriters themselves apply or persuade others to apply for those shares or debentures. The underwriters, as risk-takers, are entitled to get commission at prescribed rates. Depending upon the risk assessment of the issue, the underwriters decide on their amount of commission.

4.2 Presentation of the Subject Matter

4.2.1 Meaning of Underwriting:

Underwriting is an agreement between the underwriters and the company where the underwriters ensure the company that in case the shares and debentures offered to the public are not subscribed by the public then such shares and debentures will be taken up by the underwriters.

4.2.2 Meaning of Underwriters:

The person or institutions underwriting a public issue of shares and debentures are called underwriters.

The underwriters may be individuals, partnership firms, joint stock companies, banks and financial institutions.

4.2.3 Meaning of Underwriting Commission.

A commission is given to the underwriters for underwriting work, this commission is known as Underwriting Commission. This commission is found out on the issue price of the shares and debentures underwritten. Commission to the underwriters is paid on the whole of issue underwritten irrespective of the fact that whole of the issue has been subscribed by the public or not. Underwriting commission can be paid only when it is authorised by the Articles of Association.

The underwriters are entitled to some consideration for the risk they undertake in underwriting the shares or debentures of a public company. In the words the consideration payable to the underwriters for underwriting the shares and debentures is called underwriting commission.

4.2.4 Underwriters, Sub-Underwriters & Brokers

- Underwriters: The person or institutions underwriting a public issue of shares and debentures are called underwriters. The underwriters may be individuals, partnership firms, joint stock companies, banks and financial institutions. Ex: ICICI, SFC's, LIC etc. A person can only act as an underwriter if he/she a certificate granted by SEBI.
- Sub-underwriters: An underwriter may appoint several underwriters to work under him/her. Such underwriters are termed as sub-underwriters They have no contract with the company. They get their remuneration from the underwriters who are responsible to them.
- Brokers: Brokers only help in getting the shares or debentures sold and do not offer any guarantee to take the unsubscribed shares. Consideration paid to the brokers is known as brokerage.

4.2.5 Provision of Companies Act with Respect to Payment of Underwriting Commission

Section 40 (6) of the Companies Act 2013, provides that a company may pay commission to any person in connection with the subscription or procurement of subscription to its securities, whether absolute or conditional, subject to the following conditions which are prescribed under Companies (Prospectus and Allotment of Securities) Rules, 2014:

(a) payment of such commission shall be authorized in the company's articles of association

(b) commission may be paid out of proceeds of the issue or the profit of the company or both

(c) rate of commission paid or agreed to be paid shall not exceed, in case of shares, five percent (5%) of the price at which the shares are issued or a rate authorised by the articles, whichever is less, and in case of debentures, shall not exceed two and a half per cent (2.5 %) of the price at which the debentures are issued, or as specified in the company's articles, whichever is less;

(d) prospectus of the company shall disclose – name of the underwriters; the rate and amount of the commission payable to the underwriter; and number of securities which is to be underwritten or subscribed by the underwriter absolutely or conditionally.

(e) commission shall not be paid to any underwriter on securities which are not offered to the public for subscription;

(f) a copy of the contract for the payment of commission is delivered to the Registrar at the time of delivery of the prospectus for registration.

Thus, the Underwriting commission is limited to 5% of issue price in case of shares and 2.5% in case of debentures. The rates of commission given above are maximum rates. The company is free to negotiate lower rates with underwriters.

In short:

- Underwriting commission may be paid in cash or in fully paid-up shares or debentures or a combination of all these.

- Companies Act, 2013 provides that payment of commission should be authorized by Articles of Association and the maximum commission payable will be as under:

In case of shares	:	5% of the issue price of the share
In case of debentures	:	2.5% of the issue price of debenture

4.2.6 Advantages of Underwriting.

1. As underwriters guarantee the sale of shares and debentures, subscription of capital of the company becomes certain.
2. When there is an underwriting arrangement, a company is relieved from the trouble of raising the required capital.
3. When there is an underwriting arrangement, a company can be sure of getting the required capital within a specified period of time.
4. With an underwriting arrangement, a company need not bother about money market conditions.

4.2.7 Types of Underwriting

1. On the basis of number of shares or debentures underwritten:

According to this basis underwriting contracts are classified in two types they are,

a) Complete underwriting : It is one under which the whole of the issue of shares or debentures of a company is underwritten by one or more underwriters.

b) Partial Underwriting : It is one under which a part of the issue of shares or debentures of a company is underwritten by one or more underwriters.

2. On the basis of liability of underwriters:

According to this basis underwriting contracts are classified into two types they are,

a) Pure / Open Underwriting : it is an arrangement under which and underwriters or underwriters agree to take up the shares or debentures of a company only when the shares or debentures underwritten by him or them is not fully subscribed by the public.

b) Firm Underwriting : It is an arrangement where underwriters agrees to buy a definite number of shares and debentures irrespective of the number of shares or debentures subscribed by the public. In case of firm underwriting, the underwriters gets priority over general public if shares / debentures are oversubscribed.

Suppose a company has issued 4,00,000 shares of Rs.10 each out of which underwriting is 30,000 shares. Public subscribed for all 4,00,000 shares. As 30,000 shares are reserved for underwriters, only 4,00,000 – 30,000 i.e., 3,70,000 shares will be issued to pubic and application money of remaining 30,000 shares will be returned to the public. Normally, an underwriter cannot set off his firm underwriting liability, but if the contract provides setting off firm underwriting out of underwriting liability, it may be done.

4.2.8 Marked, Unmarked & Firm-Underwriting Applications

- Marked Application: When shares and debentures of the company are issued to the public, whatever shares and debentures are issued by the underwriters to the public, they place a seal of their name and address on the application form; and when the form bearing seal of the underwriters is received by the company, it becomes clear to the company as how many forms are due to the efforts of a particular underwriter. Such applications bear the stamp of the underwriter and the credit for these applications are given to the individual underwriter. This is necessary in the case of such companies whose shares are underwritten by a number of underwriters.

- Unmarked Application: The 'unmarked' applications are those applications which bear no stamp of an underwriter. These applications are received by the company directly from the public. When there is more than one underwriter, the unmarked applications are divided amongst Underwriters in the ratio of their gross liability.

- Firm Underwriting applications: When credit for firm underwriting given to individual underwriter: Firm underwriting shall be deducted from the gross liability first and the calculation shall be done without considering the firm underwriting and after determining the liability on account of underwriting, firm underwriting is added. And When the credit for firm underwriting not given to individual underwriter: If the credit for the firm underwriting is not to be given to individual underwriter, those shall be treated as unmarked applications.

Types of Application	**Treatment**
Marked Application	Always credited to the individual underwriter
Unmarked	Always distributed among all the underwriters
Firm Underwriting	The applications for the firm shares are either credited to individual underwriter or credited to all depending upon the conditions of underwriting agreement

4.2.9 Calculation of underwriter's liability

Liability of underwriters refer to the number of shares, the underwriters must subscribed on account of underwriting agreement

Particulars	**No. of Shares**
Gross liability	XXX
(-) Unmarked application	XXX
	XXX
(-) marked application	XXX
Net liability	XXX
(+) Firm Underwriting	XXX
Total Liability	XXX

Statement showing the Net Amount Due From/To of Underwriters

No.	Particulars	A	B
A	Total Liability (including firm underwriting) (No of shares)	xxx	xxx
B	Amount due on total liability	xxx	xxx
C	Less: amount already paid on Firms Applications	xxx	xxx
D	Amount due on net liability	xxx	xxx
E	Less: Underwriting Commission	xxx	xxx
F	Net amount due to underwriters (if D<E) Or Net amount from underwriters (if D>E)	xxx	xxx

4.2.10 Accounting Treatment for Underwriting of Shares & Debentures

Underwriting of Shares & Debentures

Date	Particulars	Amount
1.	**When shares & debentures are allotted to underwriters in respect to their liability** Underwriters A/c Dr. To Share Capital A/c (or) To Debentures A/c To Securities Premium A/c	value of the shares & debentures taken up by the underwriters
2.	**When commission becomes payable to the underwriters** Underwriting Commission A/c Dr. To Underwriters A/c	commission due on the total issue price of shares underwritten
3.	**When the net amount due from the underwriters on the shares or debentures taken up by them is received** Bank A/c Dr. To Underwriters A/c	net amount due
4.	**When the net amount due to the underwriters for commission on the**	net amount due

	shares or debentures underwritten Underwriters A/c Dr.. To Bank A/c	

4.2.11 Liability of the Underwriters in Respect of Underwriting Contract

Statement showing Net and Total liability of underwriters:

No	Particulars	Basis	A	B
A	Gross Liability	Ratio of shares underwritten	XXX	XXX
B	Less: Marked Application (excluding firm underwriting)	Actual	XXX	XXX
C	Balance	(A – B)	XXX	XXX
D	Less: Unmarked applications allotted in the ratio of gross liability	Ratio of gross liability	XXX	XXX
E	Balance	(C – D)	XXX	XXX
F	Less: Firm Underwriting	Actual or Ratio	XXX	XXX
G	Net liability as per agreement (if no balance is negative)	(E – F)	XXX	XXX
H	Add: Firm Underwriting		XXX	XXX
I	Total Liability		XXX	XXX

4.2.12 Practical Problems

Q.1. Archana Ltd. was incorporated on 1st April 2023 and issued a prospectus inviting applications for 10,00,000 equity shares at Rs. 10 each per share. The whole issue was fully underwritten by four individuals, as shown in the following:

- A: 400,000 shares
- B: 300,000 shares
- C: 200,000 shares

- D: 100,000 shares

Applications were received for 450,000 shares, of which the marked applications were as follows:

- A: 4,40,000 shares
- B: 1,80,000 shares
- C: 2,20,000 shares
- D: 20,000 shares

Required: Calculate the liabilities of individual underwriters. (Full Underwriting)

Solution:

Details	A	B	C	D	Total
No of shares underwritten	4,00,000	3,00,000	2,00,000	1,00,000	10,00,000
Less: Marked Application	(4,40,000)	(1,80,000)	(2,20,000)	(20,000)	(8,60,000)
Balance	(40,000)	1,20,000	(20,000)	80,000	1,40,000
Less: Unmarked Applications	(16,000)	(12,000)	(8,000)	(4,000)	(40,000)
Balance	(56,000)	1,08,000	(28,000)	76,000	1,00,000
Surplus of A & C distributed to B & D in ratio of 15:5	+56,000	(63,000)	+28,000	(21,000)	NIL
Net Liability	NIL	45,000	NIL	55,000	1,00,000

Number of unmarked applications =Total shares applied for – Marked Application

= 9.00,000 – 8,60,000

= 40,000 shares

A) Whole issue underwritten by one underwriter.

Q. 2 Total issue of shares 10,000 shares of Rs.10 each underwritten by Mr.X @4% commission. Application received from the public for 8,000 shares.

Determine the underwriters liability and pass journal entries in the books of company.

Solution:

Total issue of shares = 10,000 shares

Less: Application Received = 8,000 shares

Underwriters' liability = 2,000 shares

Underwriting commission = 1,00,000*4/100 = Rs.4,000.

Journal Entries

Date	Particulars	Dr. (Rs)	Cr. (Rs)
	Bank A/c--------Dr To Share Application & Allotment A/c (Being received application and allotment money)	80,000	 80,000
	Share Application & Allotment A/c--------Dr To Share Capital A/c (Being transferred application and allotment money to share capital account)	80,000	 80,000
	Mr. X A/c--------Dr To Share Capital A/c (Being shares allotted to underwriters)	20,000	 20,000
	Underwriting Commission A/c--------Dr To Mr. X A/c (Being underwriting commission payable to Mr.X)	4,000	 4,000
	Bank A/c--------Dr To Mr. X A/c (Being amount due received from Mr. X)	16,000	 16,000

B) Partial Underwriting with marked applications

Q.3 XY Ltd issued 50,000 shares of Rs.10 each. Rama underwrote 80% of the issue. Total applications received were for 42,000 shares, including marked applications for 25,000 shares. Calculate liability of the underwriter.

Solution:

Gross liability (80% of 50,000) = 40,000 shares

Less: Marked applications = 25,000 shares

Liability of underwriter = 15,000 shares

Applications from public = 42,000 shares

Add: liability of Underwriter as above = 15,000 shares

=57,000 shares

As this exceeds total issue by 7,000 shares, the liability of the underwriter will be for (15,000-7,000) 8,000 shares.

Q.4 X Ltd issued 10,000 shares of Rs. 100 each at a premium of Rs. 15 each. 90% of the issue was underwritten by M/S Broker and Co. at a commission of 1% on the nominal face value. Applications were received for 8,000 shares and allotment was fully made. All the money due from allottees were received in one instalment. The accounts with Broker & company were settled. Show the Journal entries to record the transaction.

X. Ltd Journal Entries

Date	Particulars	Dr. (Rs)	Cr. (Rs)
	Bank A/c--------Dr To Share Application & Allotment A/c (Being received money in respect of 8,000 shares at Rs.115 per share)	9,20,000	 9,20,000
	Share Application & Allotment A/c--------Dr To Share Capital A/c To Share/Security Premium A/c (Being transferred money received on 8,000 shares to share capital account and share premium account @ Rs.100 and Rs.15 respectively)	9,20,000	 8,00,000 1,20,000
	Mr. Broker & Co. A/c--------Dr To Share Capital A/c To Share/Security Premium A/c (Being the amount due on 1,800 shares taken up in terms of underwriting agreement by Broker & Co.)	2,07,000	 1,80,000 27,000
	Underwriting Commission A/c--------Dr To Mr. Broker & Co. A/c	9,000	 9,000

	(Being underwriting commission payable to Mr.Broker @1% on 9,000 shares at Rs.100 each nominal value)		
	Bank A/c--------Dr To Mr. Broker & Co. A/c (Being amount due received from Mr. Broker in settlement of the account)	1,98,000	 1,98,000

Working Notes:

It is assumed that the remaining 10% of the shares are underwritten by the company itself. In the absence of details of marked application. Net liability is worked out on the basis of gross liability.

	Broker & Co.	X Ltd
Gross liability (Number of shares)	9,000	1,000
Less: Applications received allotted in ratio of 9:1	7,200	800
	1,800	200

C) Joint Underwriting

Q.5 Navin Ltd. Incorporated on 1st April, 2023 issued a prospectus inviting applications for 20,000 equity shares of Rs. 10 each. The whole issue was fully underwriting by Adnan, Bishan and Chirag as follows:

Adnan 10,000 shares

Bishan 6,000 shares

Chirag 4,000 Shares

Applications were received for 16,000 shares of which marked applications were as follows:

Adnan 8,000 shares

Bishan 2850 shares

Chirag 4150 shares

You are required to find out the liabilities of individual underwriter. (CA inter)

Solution:

Statement of Net liability of Underwriters.

Names	Gross liability	Marked Applica tions	Unmarked application in the ratio of gross liability	Total (2) + (3)	Surplus of Chirag Ratio 10:6	Total (4) + (5)	Net Liability (1)-(6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Adnan	10,000	8,000	500	8,500	219	8,719	1,281
Bishan	6,000	2,850	300	3,150	131	3,281	2,719
Chirag	4.000	4.150	200	4,350	-350	4,000	--
Total	20,000	15,000	1,000	16,000	--	16,000	4,000

D) Firm Underwriting

Q.6 Libra Ltd came up with an issue of 20,00,000 equity shares of Rs. 10 each at par 5,00,000 shares were issued to the promoters and the balance offered to the public was underwritten by three underwriters Anand, Vijay and Ashok, equally, with firm underwriting of 50,000 shares each. Subscriptions totalled 12,97,000 including, the marked forms which were:

Anand 4,25,000 shares

Vijay 4,50,000 shares

Ashok 3,50,000 shares

The Underwriters had applied for the number of shares covered by firm underwriting. The amounts payable on application and allotment were Rs. 2.50 and Rs.2 respectively. The agreed commission was 5%.

Pass journal entries for-

A. The allotment of shares to the underwriters.

B. The commission due to each of them

C. the net cash paid and/received. (CA inter)

Solution:

Date	Particulars	Dr. (Rs)	Cr. (Rs)
	Bank A/c--------Dr To Share Application A/c (Being received application and allotment money)	3,75,000	 3,75,000
	Mr. Anand A/c--------Dr Mr. Vijay A/c--------Dr Mr. Ashok A/c--------Dr Share Application A/c -------Dr To Share Capital A/c (Being shares allotted to underwriters – 50,000 to Anand; 50,000 to Vijay and 1,03,000 to Ashok and application and allotment money credited to Share Capital)	1,00,000 1,00,000 3,38,500 3,75,000	 9,13,500
	Underwriting Commission A/c--------Dr To Mr. Anand A/c To Mr. Vijay A/c To Mr. Ashok A/c (Being underwriting commission payable to Mr. Anand, Vijay and Ashok@ 5% on the amount of shares underwritten)	7,50,000	 2,50,000 2,50,000 2,50,000
	Mr. Anand A/c--------Dr Mr. Vijay A/c--------Dr To Bank A/c (Being Amount paid to Anand and Vijay in final settlement)	1,50,000 1,50,000	 3,00,000
	Bank A/c--------Dr To Mr. Ashok A/c (Being amount due received from Mr. Ashok)	88,500	 88,500

Calculation of liability of Underwriters:

Particulars	Anand	Vijay	Ashok
Gross Liability(Number of Shares)	5,00,000	5,00,000	5.00.000
Less: Firm Underwriting	50,000	50,000	50,000
	4,50,000	4,50,000	4,50,000
Less: marked Applications	4,25,000	4,50,000	3,50,000
	25,000	-	1,00,000
Less: Unmarked Applications equally	36,000	-	36,000
	-11,000	-	64,000
Less: Adjustment of Anands surplus	(11,000)	-	11,000
Net Liability, excluding firm underwriting	-	-	53,000
Firm underwriting	50,000	50,000	50,000
Gross Liability	50,000	50,000	1,03,000

Caluculation of amounts payable by Underwriters:

Particulars	Anand Rs.	Vijay Rs.	Ashok Rs.
Liability (Number of Shares)	50,000	50,000	1,03,000
Amount Payable @ Rs.4.50 per share	2,25,000	2,25,000	4,63,500
Less: Amount paid on Firm Application for 50,000 each @ Rs.2.50	1,25,000	1,25,000	1,25,000
Balance Payable	1,00,000	1,00,000	3,38,500
Underwriting Commission Receivable	2,50,000	2,50,000	2,50,000
Amount Paid by the Company	1,50,000	1,50,000	-
Amount Received by the Company	-	-	88,500

4.3 Summary

Underwriting is an agreement, with or without conditions, to subscribe to the securities of a body corporate when existing shareholders of the corporate or the public do not subscribe to the securities offered to them. When a company goes in for an Initial Public Offer (IPO), it may face certain uncertainty about whether its Offer of shares or other securities will be subscribed in full or not. If the public issue does not get fully subscribed, the project for which the funds are being raised cannot be implemented. As per law, it is required that if the company is not able to collect 90% of the offer amount, then it needs to compulsorily return the money to those who have subscribed to the shares. To avoid the risk of under-subscription companies may seek the help of a specialized group of risk- redeemers called Underwriters. The function of the Underwriters is to arrange subscription of floated shares. If the whole or a certain portion of the shares or debentures of the company are not applied for by the public, the underwriters themselves apply or persuade others to apply for those shares or debentures. The underwriters, as risk-takers, are entitled to get commission at prescribed rates. It can be easily comprehended that when the floated shares are likely to be under-subscribed, the underwriters come to the forefront. In other cases they remain in the background, acting as catalysts arranger of sale to the investing public. Before entering into an agreement with the company, the underwriters assess the following: (a) worth of the public issue; (b) Market response to the issue; and (c) Their own ability to get the issue fully subscribed. Depending upon the risk assessment of the issue, the underwriters decide on their amount of commission. Owing to under-subscription, if the issue devalues upon them, the underwriters pay up the required amount and deduct their commission from that.

4.4 Terms to Remember

Meaning of Underwriting:

Underwriting is an agreement between the underwriters and the company where the underwriters ensure the company that in case the shares and debentures offered to the public are not subscribed by the public then such shares and debentures will be taken up by the underwriters.

Meaning of Underwriters.

The person or institutions underwriting a public issue of shares and debentures are called underwriters.

Meaning of underwriting Commission.

The underwriters are entitled to some consideration for the risk they undertake in underwriting the shares or debentures of a public company.

4.5 Check your progress

Choose the correct alternative from the alternatives given below:

1. What is the primary purpose of an underwriter's account?

A) To manage investments

B) To track underwriting profits and losses

C) To assess credit risk

D) To calculate premiums

2. In the context of insurance, what does an underwriter primarily evaluate?

A) Market trends
B) Risk associated with policies

C) Investment opportunities
D) Policyholder satisfaction

3. Which of the following is NOT typically included in an underwriter's financial report?

A) Claims paid
B) Premium income

C) Dividend distributions
D) Administrative expenses

4. What term refers to the amount of risk an underwriter is willing to accept?

A) Retention limit
B) Loss ratio

C) Underwriting limit
D) Risk appetite

5. Which financial statement is most relevant for assessing an underwriter's performance?

A) Balance sheet
B) Income statement

C) Cash flow statement
D) Statement of changes in equity

6. What does the loss ratio indicate?

A) The percentage of premiums returned to policyholders

B) The ratio of losses to premiums earned

C) The total revenue generated from policies

D) The efficiency of an underwriting process

7. What is a common method for underwriting risk assessment?

A) Statistical analysis
B) Market surveys

C) Expert opinion
D) All of the above

8. What is the consequence of a high combined ratio for an underwriter?

A) Increased profitability
B) Underwriting losses

C) Improved market share
D) Enhanced policyholder trust

9. Which of the following is a key factor in determining underwriting guidelines?

A) Historical data B) Regulatory requirements

C) Industry standards D) All of the above

10. Underwriters often rely on which of the following to make informed decisions?

    A) Underwriting software B) Claim histories

    C) Market trends D) All of the above

4.6 Answers to Check Your Progress

Answers:

1. B) To track underwriting profits and losses

2. B) Risk associated with policies 3. C) Dividend distributions

4. D) Risk appetite 5. B) Income statement

6. B) The ratio of losses to premiums earned

7. D) All of the above 8. B) Underwriting losses

9. D) All of the above 10. D) All of the above

4.7 Exercise

Q.1 A public issue of 10,000 shares of Rs.10 each were offered by altra company. These shares were underwritten as follows: A-7,000 B-3,000 the public applied for 8,000 Shares which include marked applications of A-5,000 B-2,000 determine the liability of A & B if unmarked shares were optioned to underwriters on the basis of (a) Gross Liability (b) Remaining Liability.

Q.2 Parle company Ltd. Was incorporate with a capital of Rs.10,00,000 divided into shares of Rs.10 each. The whole issue was underwritten by the underwriters as follows : M-35,000 N-30,000 O-20,000 P-10,000 Q-3,000 R-2000. All the marked application forms were to go in relief of the underwriters whose names choose. The following application forms were marked by the underwriters : M-10,000 N-22,500 O-20,000 P-7,500 Q-5,000 R-Nil. Application for 20,000 shares were received as unmarked applications. prepare a statement showing the number of shares each underwriter had to take up.

Q.3 Minaj company Ltd. Issued 1,00,000 shares of Rs.10 each. 60% of the issue was underwritten by A & B in the ration of 3:2 application for 80,000 shares were received in all out of which marked applications were A-25,000 B-12,000 determine the liability of underwriters and also commission payable as per SEBI (25%)

Q.4 A Bita company issued 1,00,000 shares of Rs.10 each. These shares were underwriters as follows X-30,000 Y-50,00 the public applied for 70,000 shares Determine the liability of X & Y .

Q.5 Neela Ltd issued 10,000 shares of rs.10 each at a premium of 10% these shares were underwritten by the underwriters as follows: J-5000 K-3000. The applications received by the company were 8000 shares of which the marked applications were J-3600 K-900 shares calculate underwriters commission as per law and also prepare statement of underwriters Net liability.

4.8 References for Further study

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