CERTIFIED INVESTMENT AND FINANCIAL ANALYSTS (CIFA)

REVISED EXAMINATION SYLLABUS

JULY 2021

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FOREWORD

One of the cardinal objectives of any education system is to ultimately provide the economy with competent, self-driven and morally upright human capital for sustainable growth and prosperity. In order to effectively achieve this, it is important that the education system continuously adapts to market dynamics at global, regional and national levels.

For professional examination bodies such as the Kenya Accountants and Secretaries National Examinations Board (Kasneb), this translates to the need to regularly review their syllabuses to match and, in an ideal setting, surpass market expectations. The drivers of syllabuses change are wide and diverse and transcend various factors including economic, legal, social and technological spheres.

It is in the above context that The National Treasury and Planning, as the parent Ministry of Kasneb, is pleased to note the significant milestone in the completion of the major review process for Kasneb, having also participated with other stakeholders in the review process. This latest review has afforded Kasneb the opportunity to address emerging trends that define the next generation of professionals, including data mining and analytics, digital competence, soft skills and a global perspective in strategic decision making.

With the revised syllabuses, Kasneb is expected to continue playing a leading role in providing the economy with competent professionals in the areas of accounting, finance, governance and corporate secretarial practice, credit management, forensic investigations, information communication technology and related areas. This is further expected to boost the Government's development agenda as defined under the Kenya Vision 2030 development blueprint and the Big Four Agenda.

The successful implementation of the revised syllabuses will require the support of all stakeholders. I wish therefore to urge for the continued support to Kasneb including from various Government Ministries and Departments, regulatory bodies, employers, professional institutes, universities and other training institutions, among others.

It is my conviction that the revised syllabuses will reshape the professional qualifications frontier in the region and beyond and firmly place Kenya as one of the leading countries in the provision of globally competitive professionals.

Dr Julius M. Muia, PhD, CBS

The Principal Secretary/The National Treasury
The National Treasury and Planning

August 2021

PREFACE

Kasneb has been undertaking a major review of its examination syllabuses every five years and a mid-term review every two and a half years. The prime focus of the just completed major review was the need to produce enhanced, integrated and competence based curriculums whose graduates will remain well positioned to meet the dynamic global market demands for the next five years and beyond.

The major review process commenced in earnest in August 2019 with an intensive stakeholder engagement across various counties in Kenya. This was supplemented by study visits and surveys conducted in various parts of the globe, including in the USA, UK, Canada, Malaysia, Singapore, Australia and India. Further engagements with employers, practitioners and the market at large culminated in the development of a competence framework for the professional qualifications of Kasneb. A competence framework is a structure that sets out and defines each individual competency required by persons working in an organisation. The framework defines the knowledge, skills and attributes needed for people within an organization.

Complementing the competence framework were occupational standards developed for the vocational, certificate and diploma programmes. Similar to the competence frameworks for professionals, the occupational standards for various technician qualifications are statements of work performance reflecting the ability to successfully complete the functions required in an occupation, as well as the application of knowledge, skills and understanding in an occupation.

With the development of the competence frameworks and occupational standards, the next logical step was the development of the detailed syllabuses content addressing the identified required competencies. The syllabuses content was developed by various subject matter experts drawn from both public and private sectors, industry and academia, employers and practitioners among others.

As noted above, stakeholder engagement formed a critical pillar in each step of the review process. At the final stretch, stakeholders were invited to validate the syllabuses on Friday, 7 May 2021 during a national virtual conference. This paved the way for the launch of the syllabuses on Friday, 23 July 2021.

As part of the new competence-based system, Kasneb will use various assessment modes through a partnership model with other institutions to test the achievement of key competencies and skills. Among other key areas of focus is the introduction of practical experience and work-simulation, together with a requirement for students to attend workshops where matters of ethics, values, attitudes and other soft skills will be developed.

The major review of the syllabuses also witnessed the expansion of the qualifications spectrum for Kasneb to include four vocational courses, one certificate course, three diploma courses, five professional courses and one post-professional specialisation course.

We are confident that the new qualifications of kasneb will address the current and emerging skills requirements in the national, regional and international markets.

Finally, I wish to take this opportunity to thank all our partners and stakeholders for their contribution in various ways to the successful completion of the major syllabuses review.

Dr Nancy N. Muriuki, PhD
Chairman of the Board of Kasneb

August 2021

ACKNOWLEDGEMENT

I wish to take this opportunity to express our deepest appreciation to all our key stakeholders who, through their expert advice, comments, other feedback and general support contributed to the development of the revised syllabuses together with the supporting competence frameworks and occupational standards.

We are particularly grateful to the Government of Kenya through the National Treasury and Planning, the Ministry of Education, Ministry of Foreign Affairs incorporating various Kenyan Embassies and High Commissions, among others; various regulatory bodies including the Kenya National Qualifications Authority (KNQA), Technical and Vocational Education and Training Authority (TVETA), Commission for University Education (CUE), Central Bank of Kenya (CBK), Capital Markets Authority (CMA); professional bodies including the Institute of Certified Public Accountants of Kenya (ICPAK), Institute of Certified Secretaries (ICS), Institute of Certified Investment and Financial Analysts (ICIFA), Institute of Credit Management Kenya (ICM-K), Law Society of Kenya (LSK) - Nairobi Chapter; Federation of Kenya Employers (FKE) and individual employers; the Ethics and Anti-Corruption Commission (EACC); practitioners, subject matter experts and trainers, various consultants engaged; students, parents and guardians; past and present members of the Board, Committees and Sub-Committee; members of staff of Kasneb among other stakeholders.

We also extend our appreciation to all foreign regulatory and professional bodies who facilitated the study visits and provided valuable insights on global trends and emerging issues in areas relevant to the examinations of Kasneb. In this connection, we wish to highlight the following institutions for special mention:

1. United Kingdom (UK): Chartered Governance Institute; Chartered Institute of Management Accountants; Chartered Institute of Marketers; Institute of Chartered Accountants in England and Wales; Pearson Vue Limited.
2. United States of America (USA): American Institute of Certified Public Accountants; Chartered Financial Analysts Institute; International Federation of Accountants; Society for Corporate Governance.
3. Singapore and Malaysia: Chartered Secretaries Institute of Singapore; Malaysian Association of Chartered Secretaries and Administrators; Malaysian Institute of Accountants.
4. Canada: CPA Canada; Board of Canadian Registered Safety Professionals.
5. Australia: CPA Australia; Pearson Vue Australia.
6. India: Indira Gandhi National Open University; Institute of Chartered Accountants of India; Institute of Company Secretaries of India, Institute of Cost Accountants of India.
7. South Africa: South Africa Institute of Chartered Accountants (SAICA).

Kasneb remains forever grateful to all our stakeholders for your role in ensuring the development of quality and globally benchmarked syllabuses, competence frameworks and occupational standards. We look forward to your continued support in the implementation of the revised syllabuses.

Dr Nicholas K. Letting', PhD, EBS
Secretary/Chief Executive Officer, Kasneb

August 2021

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BACKGROUND INFORMATION ABOUT kasneb

1.1 Legal Foundation and Status of kasneb

kasneb was established as a state corporation under the National Treasury by the Government of Kenya on 24 July 1969. The establishment and operations of kasneb are governed by the following main Acts:

(a) The Accountants Act, No. 15 of 2008 (which repealed the Accountants Act, Cap 531 of 1977).

(b) The Certified Public Secretaries of Kenya Act, Cap 534 of 1988.

(c) The Investment and Financial Analysts Act, No. 13 of 2015.

1.2 Functions of kasneb

Section 17(1) of the Accountants Act, 2008 of the Laws of Kenya defines the functions of kasneb. These functions are:

(a) To prepare syllabuses for professional, diploma and certificate examinations in accountancy, company secretarial practice and related disciplines;

(b) To make rules with respect to such examinations;

(c) To arrange and conduct examinations and issue certificates to candidates who have satisfied examination requirements;

(d) To promote recognition of its examinations in foreign countries;

(e) To investigate and determine cases involving indiscipline by students registered with the Examinations Board;

(f) To promote and carry out research relating to its examinations;

(g) To promote the publication of books and other materials relevant to its examinations;

(h) To liaise with the Ministry of Education, Science and Technology in accreditation of institutions offering training in subjects examinable by the Examinations Board, and

(i) To do anything incidental or conducive to the performance of any of the preceding functions.

1.3 Professional Institutes/Registration Board for Kasneb graduates

1.3.1 Institute of Certified Public Accountants of Kenya (ICPAK)

ICPAK is established under Section 3 of the Accountants Act, 2008. One of the functions of ICPAK is to advise kasneb on matters relating to examination standards and policies. The Act also makes provisions for the establishment of a Registration and Quality Assurance Committee (Registration Committee) under Section 13. One of the functions of the Registration Committee is to register eligible persons as Certified Public Accountants.

1.3.2 Institute of Certified Secretaries (ICS)

ICS is established under Section 3 of the Certified Public Secretaries of Kenya Act (Cap. 534) of the Laws of Kenya. One of the functions of ICS is to advise kasneb on matters relating to examination standards and policies.

1.3.3 **Registration of Certified Public Secretaries Board (RCPSB)**

RCPSB is established under Section 11 of the Certified Public Secretaries of Kenya Act (Cap. 534) of the Laws of Kenya. One of the functions of RCPSB is to register eligible persons as Certified Secretaries.

1.3.4 **Institute of Certified Investment and Financial Analysts (ICIFA)**

ICIFA is registered under the Investment and Financial Analysts Act, No. 13 of 2015 of the Laws of Kenya. One of the functions of ICIFA is to advise kasneb on matters relating to examination standards and policies. The Act also makes provisions for the establishment of a Registration Committee under Section 13. One of the functions of the Registration Committee is to register eligible persons as Certified Investment and Financial Analysts.

1.3.5 **Institute of Credit Management Kenya [ICM (K)]**

ICM (K) is registered under the Societies Act, (Cap.108) of the Laws of Kenya.

1.4 Vision, Mission, Mandate and Core Values

The vision, mission, mandate and core values of kasneb are as follows:

1.4.1 **Vision**

Global leader in examination and certification of business professionals.

1.4.2 **Mission**

Empowering professionals globally by offering quality examinations and undertaking research and innovation.

1.4.3 **Mandate**

The mandate of kasneb is the development of syllabuses; conduct of professional, diploma and certificate examinations and certification of candidates in accountancy, finance, credit, governance and management, information technology and related disciplines; promotion of its qualifications nationally, regionally and internationally and the accreditation of relevant training institutions in liaison with the ministry in charge of education.

1.4.4 **Core Values**

- Integrity
- Professionalism
- Customer focus
- Teamwork
- Innovativeness

2.0 EXAMINATIONS OF kasneb

kasneb currently offers the following examinations:

(a) **Vocational certificate courses**

These are short-term, skills-based programmes currently in the areas of entrepreneurship and innovation, graphic design, information and cyber security and block chain technology. The courses are ideal both for fresh high school graduates and established professionals in various areas willing to diversify their knowledge and competencies in the above areas.

The vocational certificate courses are administered in two levels, with each level requiring an average of three months, thus a total of six months.

Entrants with high school certificates will start with Level I which covers basic skills. Other entrants with post-high school qualifications covering the basic skills will enter at Level II.

The minimum entry for the vocational certificates is a KCSE certificate. The courses can be pursued through a tuition-based programme or privately. Tuition-based programmes (physical or virtual classes) are however recommended due to the interactiveness with facilitators and other students which are key in imparting the requisite technical and soft skills.

The examinations will be administered primarily on a computer-based platform.

The details on each of the vocational programmes are summarised below:

(i) **Vocational Certificate in Entrepreneurship and Innovation**

The course imparts basic knowledge, skills, values and attitudes to apply entrepreneurship skills and generate innovative ideas to start and manage a new business or grow an existing entity.

(ii) **Vocational Certificate in Graphic Design**

The course imparts basic knowledge, skills, values and attitudes to generate and enhance graphic designs according to set specifications.

(iii) **Vocational Certificate in Information and Cyber Security**

The course imparts basic knowledge, skills, values and attitudes to identify information and cyber threats and risks and implement programmes to protect information and databases.

(iv) **Vocational Certificate in Blockchain Technology**

The course imparts knowledge, skills, values and attitudes to develop a simple blockchain program and undertake blockchain transactions.

(b) **Certificate in Accounting and Management Skills (CAMS) course**

The course imparts knowledge, skills, values and attitudes to prepare basic accounts and financial statements for a small enterprise or non-complex environment and apply basic management and marketing skills in business.

The course is mainly for persons who wish to qualify and work as entry level accounting and management personnel.

The CAMS course is administered in two levels, with each level requiring an average of six months, thus a total of one year.

The minimum entry requirement is KCSE mean grade D or a vocational certificate.

The course is fully tuition based with requirements for students to sit for continuous assessment tests (CATs), which constitute 15% of the final score for assessment purposes.

The examinations will be administered primarily on a computer-based platform.

(c) **Diploma Courses**

Kasneb currently administers three diploma programmes; Accounting Technicians Diploma (ATD), Diploma in Data Management and Analytics (DDMA) and Diploma in Computer Networks and Systems Administration (DCNSA).

The diploma courses are administered in two levels, with each level requiring an average of one year, thus a total of two years.

The minimum entry for the diploma courses is KCSE mean grade C-. Persons with certificate and other higher qualifications from recognised institutions are also eligible for entry. The courses can currently be pursued through a tuition-based programme or privately. Tuition-based programmes (physical or virtual classes) are however recommended due to the interactiveness with facilitators and other students which are key in imparting the requisite technical and soft skills.

A summary on each of the diploma programmes is presented below:

(i) **Accounting Technicians Diploma (ATD) course**

The course imparts knowledge, skills, values and attitudes to prepare financial and management accounts and financial statements for small and medium sized enterprises and compute basic taxes for a business.

The course is aimed at persons who wish to qualify and work as middle level accountants providing technical support to professional accountants, auditors, tax practitioners and related areas.

(ii) **Diploma in Data Management and Analytics (DDMA) course**

The course imparts knowledge, skills, values and attitudes to undertake non-complex design of databases, mine and analyse data for decision making.

The DDMA will be administered on a computer-based platform.

(iii) **Diploma in Computer Networks and Systems Administration (DCNSA) course**

The course imparts knowledge, skills, values and attitudes to design, configure, test and secure and manage non-complex networks.

The DCNSA will be administered on a computer based platform.

(d) **Professional Courses**

Kasneb currently administers five professional courses, as summarised below:

(i) Certified Public Accountants (CPA)
(ii) Certified Secretaries (CS)
(iii) Certified Investment and Financial Analysts (CIFA)
(iv) Certified Credit Professionals (CCP)
(v) Certified Information Systems Solutions Expert (CISSE)

The professional courses are administered at Foundation, Intermediate and Advanced Levels. Each level requires an average of one year, though candidates are advised to provide for an additional one year to meet requirements for internship/practical experience

The minimum entry requirement for the professional courses is KCSE mean grade C+. Persons with diplomas or other higher-level qualifications from recognised institutions are also eligible for entry. The courses can be pursued through a tuition-based programme or privately. Tuition-based programmes (physical or virtual classes) are however recommended due to the interactiveness with facilitators and other students which are key in imparting the requisite technical and soft skills.

A summary on each of the professional courses is presented below:

(i) **Certified Public Accountants (CPA) course**

The course imparts knowledge, skills, values and attitudes to, among other competencies:

- Prepare accounts and financial statements including for complex entities in both the private and public sectors.
- Use computerised accounting systems
- Practically apply data analytical tools analyse data and reach conclusions.
- Undertake audit and assurance services
- Apply advanced financial management skills to evaluate various financial aspects of a business for decision making
- Prepare management accounts
- Apply leadership and management skills in practice to manage teams and achieve results

The course is aimed at persons who wish to qualify and work or practice as professional accountants, auditors, finance managers, tax managers and consultants in related areas in both public and private sectors.

Assessment will be conducted in a variety of ways, including examinations, practical papers, workshops attendance and practical experience.

In addition to the above papers, prior to certification, candidates will be required to

- Attend workshops on ethics, soft skills and emerging issues organised by Kasneb and ICPAK and earn IPD hours)
- Obtain 1-year practical experience, or alternatively attend workshops on work based simulation organised by Kasneb and ICPAK.

In order to assist CPA students to obtain the requisite practical experience and internship opportunities, they will be registered as student members of the Institute of Certified Public Accountants of Kenya (ICPAK) under a programme called the Trainee Accountants Practical Experience Programme (TAPEF). Through TAPEF, ICPAK working in consultation with Kasneb will assist students as much as possible to link with professional accountants who will mentor them towards obtaining the necessary practical experience.

(ii) **Certified Secretaries (CS) course**

The course imparts knowledge, skills, values and attitudes to, among other competencies:

- Practice and promote principles of good governance within public and private sector entities
- Implement and comply with legal, regulatory and ethical requirements in practice
- Ensure proper conduct and management of meetings
- Undertake consultancy and advisory services in corporate secretarial and related practices
- Manage boardroom dynamics
- Undertake governance and compliance audits

The course is aimed at persons who wish to qualify and work or practice as corporate secretaries, policy formulators and consultants in governance, governance and compliance auditors and administrators at county and national levels and in the private sector.

Assessment will be conducted in a variety of ways, including examinations, projects and workshops attendance.

(iii) **Certified Investment and Financial Analysts (CIFA) course**

The course imparts knowledge, skills, values and attitudes to, among other competencies:

- Apply financial tools and concepts in analysis and valuation of investment and securities
- Manage and grow portfolios of investments
- Analyse various types of investments including equity investments, fixed income investments and derivatives
- Manage corporate finances
- Apply financial modelling and analytical tools in investments analysis

The course is aimed at persons who wish to qualify and work or practice as investment, securities and financial analysts, portfolio managers, investment bankers, fund managers, consultants on national and global financial markets and related areas.

(iv) **Certified Credit Professionals (CCP) course**

The course imparts knowledge, skills, values and attitudes to, among other competencies:

- Manage the credit cycle for trade credit providers
- Manage credit risk for different entities
- Undertake credit analysis for various corporate entities
- Undertake debt collection in a professional manner
- Comply with various requirements in debt management including governance, ethical, legal and regulatory requirements.

The course is aimed at persons who wish to qualify and work or practice in various fields of credit management including credit analysis, debt management and recovery, corporate lending and related areas in both formal and informal sectors.

(v) **Certified Information Systems Solutions Expert (CISSE) course**

The course imparts knowledge, skills, values and attitudes to, among other competencies:

- Develop information systems solutions for a business
- Design and operationalise database management systems
- Design, configure and trouble shoot computer networks
- Implement ICT projects
- Manage and analyse big data

(e) **Post-professional specialisation course**

Kasneb has introduced the Certified Forensic Fraud Examiner (CFFE). The course imparts knowledge, skills, values and attitudes to, among other competencies:

- Apply analytical techniques in fraud detection
- Design and implement preventive and detective controls
- Apply and ensure compliance with the appropriate laws in fraud investigations
- Apply the burden and standards of proof in civil and criminal proceedings
- Apply the various methods and techniques of conducting fraud investigations
- Write standard investigations and expert witness reports
- Develop fraud prevention programs
- Conduct a fraud prevention health check up
- Develop and implement a fraud risk management program

The course is aimed at persons who wish to qualify and work or practice in the fields of financial fraud and corruption investigations, fraud prevention, fraud risk analysis and related areas.

The CFFE is administered in three modules, with an integrated case study and workshops at the end of the course. Each module is expected to last for three months. Examinations for the CFFE course will be administered three times in a year, thus the course is meant to last on average one year.

The minimum entry requirement to pursue the CFFE course is:

- Kasneb professional qualification; or
- Bachelor's degree from a recognised university; or
- Any other qualification considered equivalent to the above.

The course can be pursued through tuition-based learning or self-study.

Kasneb working with other partners will be rolling out another post-professional specialisation area in public financial management.

(f) **Examinations for holders of foreign qualifications wishing to be registered and practice in Kenya**

(i) **Examination for holders of foreign accountancy qualifications (FAQs)**
In consultation with the Council of ICPAK under Section 26 Sub-Sections (2) and (3) of the Accountants Act, 2008, kasneb examines holders of foreign accountancy qualifications who have applied for registration as Certified Public Accountants (CPAs) of Kenya and they are required to demonstrate their knowledge of local law and practice.

(ii) **Examination for holders of foreign secretaries qualifications (FSQs)**
In consultation with the Council of ICS under Section 20 Sub-Sections (2) and (3) of the Certified Public Secretaries of Kenya Act, Cap 534, kasneb examines holders of foreign secretaries qualifications who have applied for registration as Certified Secretaries (CSs) of Kenya and they are required to demonstrate their knowledge of local law and practice.

(iii) **Examination for holders of foreign investment and financial analysts qualifications (FIFAQs)**
In consultation with the Council of ICIFA under Section 16 Sub-Sections (2) and (3) of the Investment and Financial Analysts Act, No. 13 of 2015, kasneb examines holders of foreign qualifications who have applied for registration as Certified Investment and Financial Analysts (CIFA) and they are required to demonstrate their knowledge of local law and practice.

3.0 EXAMINATION RULES AND REGULATIONS

3.1 Registration and examination bookings

All applications for registration and examination booking must be in the prescribed manner. Students are advised to download the e-kasneb app for purposes of registration and examination booking. The deadline for registration and examination booking will be specified for each sitting but may not be later than thirty days to the date of the next examinations.

3.2 **Exemptions**

Exemptions may, on application, be granted to registered students who are holders of certain degrees and diplomas recognised by kasneb. Exemptions will be granted on a paper by paper basis. Details on available exemptions can be accessed on the kasneb website www.kasneb.or.ke.

3.3 **Retention of Credits**

Credits for papers passed by candidates will be retained without limit.

3.4 **Progression Rule**

A candidate will not be allowed to enter a higher level of the examination before completing the lower level.

3.5 **Registration Renewal**

3.5.1 A registered student must renew the studentship registration annually on the first day of July provided that newly registered students will be required to renew their registration on the first day of July following the examination sitting to which they are first eligible to enter.

3.5.2 A student who without good cause fails to renew the registration within three months of the renewal date will be deemed to have allowed the registration to lapse and may thus forfeit the right to write the examination until the renewal position is regularised. The registration number of a student who fails to renew the registration for three consecutive years will be deactivated, that is, removed from the register of students and will thus not be able to book for examinations until the registration number is reactivated.

3.5.3 A student whose registration number is deactivated for failure to renew the registration may apply for reactivation provided that if the application is accepted, the student shall:

(a) Pay the registration reactivation fee.

(b) Pay three years of registration renewal fees.

3.6 **Rules Governing the Conduct of Students in the Examination Room**

Kasneb will conduct examinations on both computer-based and paper-based platforms. The following rules mainly relate to paper-based examinations. Kasneb will be issuing additional rules specific to computer-based examinations in due course**.**

3.6.1 Candidates should present themselves for the examination at least 30 **minutes** before the scheduled time for the commencement of the examination they are taking.

3.6.2 A candidate who arrives half an hour or later after the commencement of the examination will not be allowed to take the examination nor will a candidate be permitted to leave the examination room until after the end of the first half hour since the commencement of the examination.

3.6.3 Each candidate is assigned a registration number upon registration as a student of kasneb. The candidate must sit at the place indicated by that number in the examination room. The registration number must be entered in the space provided at the top right-hand corner of each answer sheet.

3.6.4 The name of the candidate **must not** appear anywhere on the answer sheet.

3.6.5 Each answer sheet has a serial number indicated on the top, left hand side of the answer sheet. Each candidate must indicate the serial number of the answer sheet(s) used for each examination paper in the signature register.

3.6.6 Examination stationery will be provided in the examination room, but candidates must bring their own blue or black ink pens, pencils, and rulers.

3.6.7 **Mobile phones are strictly not allowed in the examinations room.**

3.6.8 No stationery whatsoever may be removed from the examination room.

3.6.9 Candidates **must not** carry the examination question papers from the examination room.

3.6.10 Candidates are allowed to use calculators provided that such calculators are noiseless, cordless and non-programmable.

3.6.11 Candidates will be required to positively identify themselves to the chief invigilator by producing their student identification cards and the national identity cards. Non-Kenyan candidates will be required to produce other relevant identification documents such as passports.

3.6.12 Strict **silence** must be observed during the entire duration of the examination.

3.6.13 Candidates **must not** possess any notes, printed paper or books in the examination room, but must leave any such material with the chief invigilator. Candidates using clipboards must ensure that such clipboards have no writing on them whatsoever.

3.6.14 Smoking is **not** allowed in the examination room.

3.6.15 Candidates **must not** collude in the examination room by exchanging notes or keeping the answer booklet in such a way that another candidate can read or copy from the booklet.

3.6.16 Impersonation in the examination room is not only a serious offence but also a criminal offence.

3.6.17 During the course of the examination, no candidate may leave the examination room without permission from the chief invigilator. Any candidate who does so will not be allowed to return to the examination room.

3.6.18 Candidates who finish the paper before the chief invigilator announces the end of the examination and wish to leave the examination room while the examination is in progress must inform the invigilator and hand in their scripts to the invigilator before leaving the examination room. However, no candidate will be allowed to leave the examinations room during the last fifteen (15) minutes of the examination.

3.6.19 Candidates **must not** leave the examination room with any answer booklet or answer sheets.

3.6.20 Candidates **must not** leave the examination room before their answer booklets are collected by the invigilators.

3.6.21 Candidates **must not** write notes on the examination timetable (Authority to sit the Examination).

3.6.22 Candidates with confirmed disabilities may apply to kasneb to be allowed extra time during examinations. Such application should be made at least two months prior to the examination.

3.6.23 Candidates must produce the timetables (Authority to sit the Examination) in order to be allowed to take the examination. Candidates may download their timetables (Authority to sit the Examination) from the kasneb website or through the e-kasneb. The downloaded timetables may be used as authority to sit the examination.

3.7 Action for Breach of Examination Rules and Regulations

3.7.1 kasneb is mandated by the Accountants Act, 2008 under Section 17 (1)(e) to investigate and determine cases involving indiscipline by students registered with kasneb. Section 42 of the Act further defines examination offences that are punishable under the law and the applicable penalties.

3.7.2 Disciplinary action will be taken against candidates who breach the examination rules and regulations of kasneb. A breach of the examination rules and regulations of kasneb shall include but is not limited to the following:

(a) Deficiency in identification.

(b) Impersonation.

(c) Collusion.

(d) Possession of a mobile phone in the examination room.

(e) Possession of notes in the examination room.

(f) Taking away answer booklets.

(g) Writing of names on the scripts.

(h) Possession of mobile phones in the examination room.

(i) Carrying the examination question papers from the examination room.

3.7.3 The action for breach of the examination rules and regulations of kasneb shall include but not limited to the following:

(a) De-registration as a student of kasneb.

(b) Cancellation of registration number.

(c) Nullification of candidate’s results.

(d) Prohibition from taking examinations of kasneb.

(e) Written reprimand and warning.

3.7.4 Certain breaches of the rules and regulations amount to breaches of the law. In such cases, candidates will be handed over to the police for investigations and appropriate legal action.

Section 42 of the Accountants Act, 2008 provides that a person who:

(a) gains access to examinations materials and knowingly reveals the contents, whether orally, in writing or through any other form, to an unauthorised party, whether a candidate or not;

(b) wilfully and maliciously damages examinations materials;

(c) while not registered to take a particular examination, with intent to impersonate, presents or attempts to present himself to take the part of an enrolled candidate;

(d) presents a forged certificate to a prospective employer or to an institution of learning with intent to gain employment or admission; or

(e) introduces unauthorised materials into the examinations room, whether in writing or in any other form, whether a candidate or not, commits an offence and is liable on conviction to imprisonment for a term not exceeding three years, or to a fine not exceeding one hundred thousand shillings, or to both.

CERTIFIED INVESTMENT AND FINANCIAL ANALYSTS (CIFA)

FOUNDATION LEVEL

PAPER NO. 1 FINANCIAL ACCOUNTING

UNIT DESCRIPTION
This paper is intended to introduce the candidate to the overall purpose of accounting, applicable regulations, the accounting treatment and presentation of basic transactions and preparation and analysis of financial statements.

LEARNING OUTCOMES
A candidate who passes this paper should be able to:
- Prepare books of original entry and basic ledger accounts under the double entry system
- Prepare basic financial statements of sole traders, partnerships, companies, manufacturing entities and not for profit organisations
- Comply with the regulatory framework in the accounting field
- Analyse financial statements by use of ratios and statement of cash flows
- Demonstrate basic understanding of public sector accounting framework

CONTENT
1. **Introduction to Accounting**
    - 1.1 Nature and Purpose of Accounting
    - 1.2 The objective of Financial Accounting
    - 1.3 The Elements of Financial Statements
    - 1.4 The Accounting Equation
    - 1.5 The Users of Accounting Information

2. **The Accounting Process and Systems**
    - 2.1 The Source documents such as receipts and invoices
    - 2.2 The Books of Prime entry/Original Entry from the journals, cashbooks, Petty cash books and registers
    - 2.3 The Ledger and the concept of double entry
    - 2.4 The Trial Balance
    - 2.5 The Financial Statements

3. **Regulation and other principles guiding the accounting profession**
    - 3.1 The legal sources of regulation
    - 3.2 The professional sources of regulation (local and international bodies) and ethical requirements
    - 3.3 Accounting Standards
    - 3.4 Common accounting principles/concepts
    - 3.5 Qualities of useful financial information

4. **Accounting for Assets and Liabilities**
    - 4.1 Property, Plant and Equipment (depreciation, acquisition, disposal, exchange, excluding revaluations)
    - 4.2 Intangible Assets
    - 4.3 Financial Assets and Financial Liabilities (Definition, Examples and Classification only)
    - 4.4 Inventory
    - 4.5 Cash in hand and cash at bank (bank reconciliation statements)

4.6 Trade Receivables (Measurement and credit Losses)
4.7 Trade payables
4.8 Accrued Incomes/Expenses and Prepaid Incomes/Expenses

5. **Financial Statements of a sole trader**
5.1 Statement of Profit or Loss
5.2 Statement of Financial Position

6. **Financial Statements of a partnership**
6.1 The partnership deed/agreement
6.2 The statement of Profit or Loss and appropriation
6.3 Partners' capital and current accounts
6.4 The statement of financial position
6.5 Accounting treatment and presentation when there is a change in profit/loss sharing ratio, admission/retirement of a partner, dissolution of a partnership

7. **Financial Statements of a company**
7.1 Important concepts of a company (Ordinary and Preference share capital, issuing new shares by way of full market price, bonus shares and rights issue, Reserves, retained profits and corporation tax)
7.2 Statement of Profit or Loss
7.3 Other comprehensive incomes
7.4 Statement of Financial Position
7.5 Statement of Cash flows

8. **Financial Statements of a manufacturing entity**
8.1 Manufacturing Statement of production
8.2 Statement of Profit or Loss
8.3 Statement of Financial Position

9. **Statements of a not-for-profit entity**
9.1 Objectives of Not-for-profit organisations
9.2 Statement of Income and Expenditure
9.3 Statement of Financial Position

10. **Correction of errors and preparing financial statements with incomplete records**
10.1 Types and causes of errors
10.2 Correcting errors in source documents, the books of prime entry, the ledger, the trial balance and financial statements
10.3 Reasons for incomplete information
10.4 Preparation of financial statements from incomplete information

11. **Analyzing Financial Statements**
11.1 The objective of analysing financial statements
11.2 Analysing financial statements using financial ratios (Liquidity, Profitability, Solvency, Efficiency, Investor/Value and Cash Flow categories)

12. **Accounting in the Public Sector**
12.1 Features of public sector entities (as compared to private sector)
12.2 Structure of the public sector (National and county governments, State Corporations, Departments and Agencies)

12.3 Regulation and oversight (International Public Sector Accounting Standards Board, Director of Accounting Services, National Treasury, Parliamentary Committees, Accounting Officers at national and county levels)
12.4 Objectives of public sector financial statements and Standards (IPSAS)
12.5 Accounting techniques in public sector such as budgeting, cash, accrual, commitment and fund accounting)

Sample Reading and Reference Material

1. Wood, F & Robinson, S. (2018). Book-Keeping and Accounts (9th edition). Harlow. Pearson Education Ltd.
2. Glautier, M., Underdown, B., & Morris, D. (2011). Accounting: Theory and Practice (8th edition.). Harlow. Pearson Education Ltd.
3. Sangster, A. & Wood, F. (2018). Frank Wood's Business Accounting Volume 1 (14th edition.) Harlow. Pearson Education Ltd.
4. Kasneb e-learning resources (link on the Kasneb website).
5. Kasneb approved study packs.

PAPER NO. 2 PROFESSIONAL ETHICS AND GOVERNANCE

UNIT DESCRIPTION
This paper is intended to equip the candidate with knowledge, skills and attitudes that will enable him/her demonstrate adherence to good governance and ethical practices in practice.

LEARNING OUTCOMES
A candidate who passes this paper should be able to:
- Identify ethical issues and determine when ethical principles apply
- Analyse alternative courses of action and apply the fundamental ethical principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour to ethical dilemmas and determine an appropriate approach.
- Adhere to laws, professional standards and policies and the rules of professional conduct when exercising professional judgement
- Practice the tenets and principles of good governance
- Identify violations of the code and standards, and recommend the best measure for correction
- Develop and maintain knowledge of emerging local and global codes of ethics and practices

CONTENT
1. **Overview of Professional Ethics**
    1.1 Definitions of ethics, the good as the last end, the common good, ethical norms, morality, values and ethical conduct, conscience and levels of conscience
    1.2 Ethical philosophy, principles
    1.3 Ethics and professionalism
    1.4 Definition of Business Ethics and Corporate Ethics
    1.5 Benefits and importance of ethical conduct in the investment industry
    1.6 Ethics and law
    1.7 Challenges to ethical behaviour and ethical dilemma
    1.8 Ethical decision making framework
    1.9 Code of ethics and professional standards - ICIFA
    1.10 Code of ethics versus code of conduct
    1.11 Role of a code of ethics in defining a profession

2. **Ethical Theories**
    2.1 Moral development (theories): Kohlberg Theory; Gilligan's Theory
    2.2 Consequentialist Theories: Utilitarian; Egoistic; Common Good
    2.3 Non-consequentialist Theories: duty-based; the rights; the fairness or justice, the divine command
    2.4 Agent-centred theories: the virtue; the feminist
    2.5 Applied Ethics: terms used in ethical judgments**;** obligatory, impermissible, permissible, supererogatory
    2.6 Framework for ethical decision making: the consequentialist framework; the duty framework; the virtue framework

3. **Ethics and the Investment Industry**
    3.1 Need for high ethical standards in the investment industry and why it matters
    3.2 Types of investment fraud
    3.3 Ethics, Society, and the Capital Markets
    3.4 Capital Market Sustainability and the Actions of market players
    3.5 Relationship between ethical and legal standards

3.6 Commitment to Ethics by Firms
3.7 Applying the ethical framepwork
3.8 The standards of professional conduct
3.9 An ongoing commitment to professional competence: ethical decisions in the stock market; short selling, pump and dump, insider trading, bucketing, false trading, cornering
3.10 Factors influencing business ethics
3.11 Establishing ethics and trust in the investment industry

4. **Generally Accepted Codes of ethics and Standards of Professional Conduct**
4.1 Professionalism
4.2 Concerns of professional ethics
4.3 Integrity of Capital Markets
4.4 Duties to clients
4.5 Duties to employers
4.6 Investment analysis, recommendation and actions
4.7 Conflict of interest
4.8 Code of ethics for various professionals: ICIFA code of conduct, standards and ethics; Stewardship Code for Institutional Investors 2017; The code of corporate governance practices for issuers of securities to the public 2015
4.9 King IV Report on Corporate Governance
4.10 The revised Organisation for Economic Co-operation and Development (OECD) principles of corporate governance and their relevance to non-OECD countries
4.11 Cadbury Report of the committee on the financial aspects of corporate governance
4.12 The Hampel committee on corporate governance

5. **Global Investment performance standards (GIPS**)
5.1 The genesis of the GIPS standards
5.2 Construction and purpose of composites in performance reporting
5.3 Requirement for verification
5.4 Structure of the GIPS standards
5.5 Benefits from compliance
5.6 Features of the GIPS standards and the fundamental of compliance
5.7 Scope of the GIPS standards with respect to investments firms
5.8 Implementation of GIPS standards in countries and conflicts with local regulations
5.9 The nine major sections of the GIPS standards

6. **Overview of Governance**
6.1 Definition of governance
6.2 Principles of Governance
6.3 Importance of Governance
6.4 Governance and Management
6.5 Ethical Leadership
6.6 Codes of governance
6.7 Importance of Codes of Governance
6.8 Corporate Governance Concepts
6.9 Historical overview of Corporate Governance
6.10 Inter-relationship between Business Ethics and Corporate Governance
6.11 Governance and the Law
6.12 Role of the board in promotion of ethical conduct

7. **Theories of Corporate Governance**
   - 7.1 The Agency Dilemma
   - 7.2 Agency Theory
   - 7.3 Stewardship Theory
   - 7.4 Resource Dependency Theory
   - 7.5 Stakeholder Theory
   - 7.6 Transaction Cost Theory
   - 7.7 Political Theory

8. **Emotional Intelligence**
   - 8.1 Definition of emotional intelligence (EQ)
   - 8.2 Components of emotional intelligence
   - 8.3 Signs of High Emotional Intelligence
   - 8.4 The Importance of Emotional Intelligence in a Leader

9. **Accountability, Risk Management and Internal Control**
   - 9.1 Ethical risk and how to manage it
   - 9.2 The Fraud Triangle Theory
   - 9.3 Traditional Risk Theory applied to ethical risk
   - 9.4 Financial reporting
   - 9.5 Integrated reporting
   - 9.6 Strategies and processes in enterprise risk management
   - 9.7 Board’s role in enterprise risk management
   - 9.8 Internal controls
   - 9.9 Audit Committee
   - 9.10 External auditor
   - 9.11 Internal audit charter and work plan

10. **Stakeholders Management**
   - 10.1 Stakeholder groups
   - 10.2 Shareholders and stakeholder rights and interests
   - 10.3 Shareholders and stakeholder obligations
   - 10.4 Minority shareholders
   - 10.5 Stakeholders engagement
   - 10.6 Stakeholders dispute resolution
   - 10.7 Shareholders association and education
   - 10.8 The Role of institutional investors in corporate governance
   - 10.9 Institutional investors’ relationship with investee companies

11. **Case Studies in Professional Values and Governance**
   - 11.1 Importance of case studies
   - 11.2 Using ethical concepts to analyze case studies
   - 11.3 Practical professional ethical study cases
   - 11.4 Enron scandal
   - 11.5 Case studies on select stock brokerage firms and banks

12. **Contemporary Issues and emerging trends**
   - 12.1 Impact and inter-relationships between social media and professional ethics and governance, how much should employees post, technology, racial discrimination

Sample Reading and Reference Material

1. Jennings, M. M. (2018). Business Ethics: Case Studies and Selected Readings (9th edition). Australia: Cengage Learning.
2. Hartman, L., Des Jardins, J., & MacDonald, C. (2020). Business Ethics: Decision Making for Personal Integrity & Social Responsibility (5th edition). New York: McGraw-Hill.
3. Colley, J. L., Stettinius, W., Doyle, J. L., & Logan, G. (2004). What Is Corporate Governance? New York: McGraw-Hill.
4. Bloomfield, S. (2013). Theory and Practice of Corporate Governance: An Integrated Approach. Cambridge: Cambridge University Press.
5. ICIFA code of ethics and standards
6. Capital Markets Authority Corporate Governance Code.
7. Kasneb e-learning resources (link on the Kasneb website).
8. Kasneb approved study packs.

PAPER NO.3 REGULATION OF FINANCIAL MARKETS

UNIT DESCRIPTION
This paper is intended to equip the candidate with knowledge, skills, understanding and attitudes that will enable him/her to comply with and implement the regulatory framework governing financial markets in practice.

LEARNING OUTCOMES
A candidate who passes this paper should be able to:
- Identify the key elements of the legal and regulatory framework relating to financial markets
- Demonstrate understanding of the licensing requirements of intermediaries in the financial market
- Relate with and enforce requirements of market regulators, the securities exchange and other financial market players
- Demonstrate an understanding of the processes and law on anti-money laundering and financing of Terrorism;
- Apply corporate governance principles in the management of market intermediaries

CONTENT
1. **Introduction to Law**
    - 1.1 Nature, purpose and classification of law
    - 1.2 Sources of law
    - 1.3 The court system; establishment, composition and jurisdiction;
    - 1.4 Fundamentals of the law of contract: definition; classification; formation; terms of a contract; vitiating factors; illegal contracts; discharge of contracts; remedies for breach of contracts; limitations of actions
    - 1.5 Fundamentals of the law of agency: nature of agency; formation of agency; authority of agents; duties and rights of principals and agents; personal liability of agents; termination of agents

2. **Financial markets regulatory institutions**
    - 2.1 Historical development of the law and regulations governing financial markets
    - 2.2 Objectives of regulation; need for regulation of financial markets
    - 2.3 Regulatory strategies in financial services
    - 2.4 Financial market regulators (as applicable in Kenya or other jurisdictions where relevant): central banks; capital market authorities; deposit insurance corporations and deposit insurance funds; insurance regulatory authorities ; retirement benefit authorities; sacco societies regulatory authorities; unclaimed financial assets authorities; competition authorities or equivalent bodies
    - 2.5 Professional bodies in financial services- Institute of Certified Investment and Financial Analysts (ICIFA)
    - 2.6 Regulations in the international financial markets

3. **Regulations of Capital Markets**
    - 3.1 The Capital Markets Authority (CMA) - Powers, functions and roles
    - 3.2 Investor Compensation Fund (ICF)
    - 3.3 The Capital Markets Tribunal: Powers, functions and roles
    - 3.4 The Capital Markets Fraud Investigations Unit
    - 3.5 The International Organisation of Securities Commissions principles relating to the regulator

4. **Financial market intermediaries**

4.1 Requirements for licensing of market intermediaries

4.2 Market intermediaries:

4.2.1 Investment Banks, Stock Brokers and Dealers
4.2.2 Fund Managers and Investment Advisers
4.2.3 Credit Rating Agencies
4.2.4 Collective Investments Schemes (Unit Trusts and Mutual Funds)
4.2.4 Custodians/ Authorized Depositories
4.3.5 Online Foreign Exchange Brokers and Money Managers
4.3.6 REIT Managers and REIT Trustees
4.3.7 Foreign Exchange Bureaus
4.3.8 Private Equity and venture capital Firms
4.3.9 Savings and Credit Cooperative Societies

4.3 Obligations of licensed intermediaries: conduct obligations; client accounts; record keeping and reporting obligations

4.4 Roles of an authorised depository and when the appointment of a custodian is required

5. **Central Securities Depository**

5.1 The Central Depository Settlement Corporation
5.2 Establishment of the Central Depository
5.3 Role and duties of a Central Depository
5.4 Central Depository agents
5.5 Rules relating to Appointment of Central Depository Agents
5.6 Rules of a Central Depository
5.7 Structure of Central Depository Accounts; settlement of trades
5.8 Insurance of a Central Depository
5.9 The Business Conduct Committee of the Central Depository Corporation
5.10 Establishment and Management of the Central Depository Guarantee Fund

6. **Securities Exchanges and Clearing Agencies**

6.1 Establishment of Securities Exchanges
6.2 Role of the Securities Exchange
6.3 Membership of the Securities Exchange
6.4 The Board and committees of the Securities Exchange
6.5 Securities Exchange listing rules; listing process; role of advisers; eligibility and disclosure requirement; continuing obligations
6.6 Takeover and Merger Regulations
6.7 Foreign Investor Regulations
6.8 Derivatives Exchange Regulations: Requirements for Derivative Exchanges
6.9 Raising capital in the securities market: Initial Public offering, introductions, offers for sale of issued securities, Additional new listing of securities
6.10 Market Segments and Eligibility requirements: Main Investment Market Segment (MIMS), Alternative Investment Market Segment (AIMS), Fixed Income Securities Market Segment (FISMS) and Growth Enterprises Market Segment (GEMS)
6.11 Appointment and Responsibilities of nominated advisors, sponsoring stockbrokers and lead transaction advisor
6.12 Procedure for admission to listing of REITS securities
6.13 Suspension and delisting of securities listing and post listing requirements
6.14 Demutualization and Self-Listing of the Exchange
6.15 Cross border listing
6.16 Over the counter (OTC) markets and other multilateral trading facilities (MTF)

6.17 Clearing Agencies
6.18 The International Organisation of Securities Commissions (IOSCO) principles for self-regulation and enforcement of securities regulation

7. **Investment Funds**

7.1 Collective Investment Schemes (CISs): types of CIS; requirements for authorisation of a fund and the restrictions on advertising content; purpose and main contents of the information memorandum; role of the main participants in a collective investment scheme; rules surrounding the valuation and pricing of a fund and investor dealing
7.2 Exchange-Traded Funds (ETFs): characteristics of exchange-traded funds; Listing ETFs; Trading and Settlement
7.3 Real Estate Investment Trusts (REITs): Types of REITs; characteristics of REITS; Regulatory Requirement of REITS; Role of the REIT Manager; Role of the Trustee
7.4 Venture Capital Companies: characteristics of Venture Capital Companies; Eligibility Requirements for a Registered Venture Capital Company
7.5 Employee Share Ownership Plans (ESOPs): Creation of an ESOP; Scheme Requirements
7.6 Special Interest Schemes: characteristics; requirements for special interest schemes

8. **Corporate Governance and Conduct of Business of Market Intermediaries**

8.1 The concept of corporate governance
8.2 Objective of the corporate governance Regulations
8.3 Role of the Board, its committees and the Board Charter
8.4 Responsibilities of shareholders
8.5 Employees and prescribed Code of Conduct
8.6 Management of a market intermediary
8.7 Internal controls and risk management
8.8 Capital Markets Authority Audit
8.9 Conduct of business of market intermediaries
8.9.1 Principles when conducting business with the public
8.9.2 Know your client procedures
8.9.3 Client rights, contract notes, confidentiality, funds and complaints handling procedures
8.9.4 Purpose of the fair and clear communications rule
8.9.5 Rules surrounding cold calling
8.9.6 Rules surrounding the disclosure of charges
8.9.7 Required content of a client agreement
7.9.10 The concept of fiduciary duty
7.9.11 Rules around client confidentiality and access to client information
7.9.12 Conflict of Interest
7.9.13 Suitability of advice; investment advise process
7.9.14 Client Money: segregation of client money bank accounts; Operating Client Money Accounts; Reconciliation and Accounting Record; Registration of Asset
7.9.15 Unacceptable trading practices: front running; churning; insider dealing; market abuse; penalties for unacceptable trading practices

9. **Anti-Money Laundering and Combating the Financing of Terrorism**
   - 9.1 Money laundering, the process and related offences; suspicious transactions reporting
   - 9.2 Financial Reporting Centre-objectives, functions and powers
   - 9.3 The Anti-Money Laundering Advisory Board; Anti-Money Laundering obligations of a Reporting Institution
   - 9.4 Money laundering checks: best execution rule; timely execution rule; timely and fair execution rule; contract notes rule; off-market transactions
   - 9.5 Assets Recovery Agency (ARA)- functions, powers and funds
   - 9.6 Criminal Assets Recovery Fund - functions, powers and funds
   - 9.7 Role of the financial Action Task Force
   - 9.8 Role of Egmont Group of Financial Intelligence Units
   - 9.9 Role of Eastern and Southern Africa Anti Money Laundering Group (ESAAMLG)
   - 9.10 Role of United Nations Office on Drugs and Crimes (UNODC)
   - 9.11 Customer Due Diligence requirements for natural persons, legal persons, partnerships and trusts
   - 9.12 Counter Financing of Terrorism: Inter-Ministerial Committee - Functions and powers of the Committee; mechanism for coordinating counter - terrorism measures
   - 9.13 Enhanced due diligence measures
   - 9.14 Establishment of ultimate beneficiaries
   - 9.15 Politically exposed persons
   - 9.16 Correspondent relationships
   - 9.17 Wire transfers
   - 9.18 Legitimacy of source of funds

Sample reading and reference material

1. Rothwell, K. (2015). International Introduction to Securities and Investment (Kenya). London: Chartered Institute for Securities & Investment.
2. Various legislation on financial markets regulators and intermediaries
3. Other legislation governing financial matters including anti-money laundering, financing of terrorism and related areas.
4. Codes of Governance issued by various regulatory bodies.
5. Kasneb e-learning resources link on the Kasneb website).
6. Kasneb approved study packs.

PAPER NO. 4 ECONOMICS

UNIT DESCRIPTION
This paper is intended to equip the candidate with knowledge, skills and attitude to identify the impact and interaction of economic principles in various situations and apply the principles in decision making.

LEARNING OUTCOMES
A candidate who passes this paper should be able to:
- Apply basic mathematical and graphical techniques to analyse economic relationships
- Apply the knowledge of economics in decision making
- Analyse economic problems and suggest possible policy related recommendations
- Apply knowledge of economics in international trade and finance
- Relate economics to income levels and development in a country

CONTENT
1. **Microeconomics**

   1.1 **Introduction to economics**
   - 1.1.1 Definition of economics
   - 1.1.2 Basic economic concepts: economic resources, human wants, scarcity and choice, opportunity cost, production possibility curves/frontiers
   - 1.1.3 Scope of economics: Micro and macro economics
   - 1.1.4 Methodology of economics: positive and normative economics, scientific methods, economics as a social science.
   - 1.1.5 Economic systems: planned economy, free market economy, mixed economy
   - 1.1.6 Consumers' sovereignty and its limitations

   1.2 **Demand, supply and determination of equilibrium**

   1.2.1 **Demand analysis**
   - 1.2.1.1 Definition
   - 1.2.1.2 Law of demand
   - 1.2.1.3 Exceptional demand curves
   - 1.2.1.4 Individual demand versus market demand
   - 1.2.1.5 Factors influencing demand
   - 1.2.1.6 Types of demand
   - 1.2.1.7 Movement along and shifts of demand curves
   - 1.2.1.8 Elasticity of demand
   - 1.2.1.9 Types of elasticity: price, income and cross elasticity
   - 1.2.1.10 Measurement of elasticity; point and arc elasticity
   - 1.2.1.11 Factors influencing elasticity of demand
   - 1.2.1.12 Application of elasticity of demand

   1.2.2 **Supply analysis**
   - 1.2.2.1 Definition
   - 1.2.2.2 Individual versus market supply
   - 1.2.2.3 Factors influencing supply
   - 1.2.2.4 Movements along and shifts of supply curves
   - 1.2.2.5 Definition of elasticity of supply
   - 1.2.2.6 Price elasticity of supply
   - 1.2.2.7 Factors influencing elasticity of supply
   - 1.2.2.8 Application of elasticity of supply

1.2.3 **Determination of equilibrium**

- 1.2.3.1 Interaction of supply and demand, equilibrium price and quantity
- 1.2.3.2 Mathematical approach to equilibrium analysis
- 1.2.3.3 Stable versus unstable equilibrium
- 1.2.3.4 Effects of shifts in demand and supply on market equilibrium
- 1.2.3.5 Effect of taxes and subsidies on market equilibrium
- 1.2.3.6 Price controls: Maximum and Minimum price control
- 1.2.3.7 Price decontrol: Effect of Minimum and Maximum price decontrol
- 1.2.3.8 Reasons for price fluctuations in agriculture

1.2.4 **The theory of consumer behaviour**

- 1.2.4.1 Approaches to the theory of the consumer - cardinal versus ordinal approach
- 1.2.4.2 Utility analysis, marginal utility (MU), law of diminishing marginal utility (DMU)
- 1.2.4.3 Limitations of cardinal approach
- 1.2.4.4 Indifference curve analysis; Indifference curve and budget line
- 1.2.4.5 Consumer equilibrium; effects of changes in prices and incomes on consumer equilibrium
- 1.2.4.6 Derivation of a demand curve
- 1.2.4.7 Applications of indifference curve analysis: substitution effect and income effect for a normal good, inferior good and a giffen good; derivation of the Engels curve
- 1.2.4.8 Consumer surplus/Marshallian surplus

1.2.5 **The theory of a firm**

- 1.2.5.1 The theory of production
  - 1.2.5.1.1 Factors of production
  - 1.2.5.1.2 Mobility of factors of production
  - 1.2.5.1.3 Short run analysis
  - 1.2.5.1.4 Total product, average and marginal products
  - 1.2.5.1.5 Stages in production and the law of variable proportions/the law of diminishing returns
  - 1.2.5.1.6 Long run analysis
  - 1.2.5.1.7 Isoquant and isocost lines
  - 1.2.5.1.8 The concept of producer equilibrium and firm's expansion curve
  - 1.2.5.1.9 Law of diminishing returns to scale
  - 1.2.5.1.10 Demand and supply of factors of production
  - 1.2.5.1.11 Wage determination: demand and supply for labour
  - 1.2.5.1.12 Wage differential
  - 1.2.5.1.13 Trade unions: functions, effectiveness and challenges
  - 1.2.5.1.14 Transfer earnings and economic rent

1.2.6 **The theory of costs**

1.2.6.1 Short run costs analysis and size of the firm's total cost, fixed cost, average cost, variable costs and marginal cost

1.2.6.2 Long run costs analysis

1.2.6.3 Optimal size of a firm

1.2.6.4 Economies and diseconomies of scale

1.2.7 **Market structures**

1.2.7.1 Definition of a market

1.2.7.2 Necessary and sufficient conditions for profit maximisation

1.2.7.3 Mathematical approach to profit maximisation

1.2.7.4 Output, prices and efficiency of: Perfect competition, monopoly, monopolistic competition, oligopolistic competition

2. **Macroeconomics**

2.1 **National income**

2.1.1 Definition of national income

2.1.2 Circular flow of income

2.1.3 Methods/approaches to measuring national income

2.1.4 Concepts of national income: gross domestic product (GDP), gross national product (GNP) and net national product (NNP), net national income (NNI) at market price and factor cost, disposable income

2.1.5 Difficulties in measuring national income

2.1.6 Uses of income statistics

2.1.7 Analysis of consumption, saving and investment and their interaction in a simple economic model

2.1.8 Mathematical approach to the determination of equilibrium national income

2.1.9 Inflationary and deflationary gaps

2.1.10 The multiplier and accelerator concepts

2.1.11 Business cycles/cyclical fluctuations

2.2 **Economic growth, economic development and economic planning**

2.2.1 The differences between economic growth and economic development

2.2.2 Actual and potential growth

2.2.3 The benefits and costs of economic growth

2.2.4 Determinants of economic development

2.2.5 Common characteristics of developing countries

2.2.6 Obstacles to economic development

2.2.7 The need for development planning

2.2.8 Short term, medium term and long term planning tools

2.2.9 Challenges to economic planning in developing countries

2.3 **Money and banking**

2.3.1 **Money**

2.3.1.1 The nature and functions of money

2.3.1.2 Demand and supply of money

2.3.1.3 Theories of demand for money: The quantity theory, the Keynesian liquidity preference theory

2.3.2 **The banking system**

2.3.2.1 Definition of commercial banks
2.3.2.2 The role of commercial banks and non-banking financial institutions in the economy
2.3.2.3 Credit creation
2.3.2.4 Definition of central bank
2.3.2.5 The role of the central bank; traditional and changing role in a liberalised economy, such as financial sector reform, exchange rate reform
2.3.2.6 Monetary policy, definition, objectives, instruments and limitations
2.3.2.7 Classical theory of interest rate determination
2.3.2.8 Interest rates and their effects on the level of investment, output, inflation and employment
2.3.2.9 Harmonisation of fiscal and monetary policies
2.3.2.10 Simple IS - LM Model
2.3.2.11 Partial equilibrium and general equilibrium

2.4 **Inflation and unemployment**

2.4.1 **Inflation**

2.4.1.1 Definition and types of inflation
2.4.1.2 Causes of inflation: cost push and demand pull
2.4.1.3 Effects of inflation
2.4.1.4 Measures to control inflation

2.4.2 **Unemployment**

2.4.2.1 Definition of unemployment
2.4.2.2 Types and causes of unemployment
2.4.2.3 Control measures of unemployment
2.4.2.4 Relationship between unemployment and inflation: The Phillips curve

2.4.3 **Agriculture and Industry**

2.4.3.1 Role of agriculture in economic development
2.4.3.2 Challenges facing agricultural sector in developing countries
2.4.3.3 Policies to improve the agricultural sector
2.4.3.4 Role of industry in economic development
2.4.3.5 Benefits of small scale industries in developing countries
2.4.3.6 Obstacles to industrial development in developing countries
2.4.3.7 Policies to enhance industrial development in developing countries

2.4.4 **International trade and finance**

2.4.4.1 Definition of International trade, advantages and disadvantages
2.4.4.2 Theory of absolute advantage and comparative advantage
2.4.4.3 World trade organisation (WTO) and concerns of developing countries
2.4.4.4 Protection in international trade
2.4.4.5 Regional integration organisations, commodity agreements and the relevance to less developed countries (LDCs)

2.4.4.6 Terms of trade, balance of trade, balance of payments (causes and methods of correcting deficits in balance of payments)
2.4.4.7 Exchange rates: Types of foreign exchange regimes, factors influencing exchange rates, foreign exchange reserves
2.4.4.8 Foreign Direct Investment: case for and case against FDI
2.4.4.9 Foreign Aid: Case for and case against foreign aid
2.4.4.10 Bretton Woods financial institutions: International Monetary Fund (IMF) and World Bank
2.4.4.11 Foreign debt management: causes, consequences of excessive debt and interventions
2.4.4.12 Structural Adjustment Programmes (SAPs) and their impacts on the LDCs

Sample reading and reference material

1. Mudida R. Modern Economics. (2nd edition). Focus Publishers Ltd. Nairobi, Kenya.
2. Mukras. M. S. Elements of Mathematical Economics (Revised Edition). Kenya Literature Bureau. Nairobi, Kenya.
3. Kasneb e-learning resources (link on the Kasneb website)
4. Kasneb approved study packs

PAPER NO. 5 QUANTITATIVE ANALYSIS

UNIT DESCRIPTION

This paper is intended to equip the candidate with knowledge, skills and attitudes that will enable the learner to use quantitative analysis tools in business operations and decision making.

LEARNING OUTCOMES

A candidate who passes this paper should be able to:

- Use mathematical techniques to solve business problems.
- Apply set and probability theories in business decision making
- Apply operation research techniques in decision making
- Apply hypothesis testing in analysing business situations
- Apply linear programming to solve practical business problems

CONTENT

1. **Mathematical Techniques**

1.1 **Functions**

1.1.1 Definition
1.1.2 Functions, equations, inequalities and graphs; linear, quadratic, cubic, Exponential and logarithmic functions
1.1.3 Application of mathematical functions in solving business problems

1.2 **Matrix Algebra**

1.2.1 Definition
1.2.2 Types and operations (addition, subtraction, multiplication, transposition and inversion of up to order 3x3)
1.2.3 Application of matrices; statistical modelling, Markov analysis, input-output analysis and general applications

1.3 **Calculus**

1.4 **Differentiation**

1.4.1 Definition
1.4.2 Rules of differentiation (general rule, chain, product, quotient)
1.4.3 Differentiation of exponential and logarithmic functions
1.4.4 Turning points (maxima, minima and inflexion)
1.4.5 Application of differentiation to business problems

1.5 **Integration**

1.5.1 Definition
1.5.2 Rules of integration (general rule)
1.5.3 Integration of exponential and logarithmic functions
1.5.4 Applications of integration to business problems

1.6 **Descriptive Statistics**

1.6.1 Measures of central tendency: mean: arithmetic mean, weighted arithmetic mean; geometric mean, harmonic mean, median and mode

1.6.2 Measures of dispersion: range, quartile, deciles, percentiles, mean deviation, standard deviation and coefficient of variation

1.6.2.1 Measures of skewness: Pearson's coefficient of skewness, product coefficient of skewness

1.6.2.2 Measures of kurtosis: Pearson's coefficient of kurtosis, product coefficient of kurtosis

2. **Probability**

2.1 Set Theory

2.2 Definition

2.3 Types of sets

2.4 Set description; enumeration and descriptive properties of sets

2.5 Venn diagrams (order - Venn diagrams precede operation of sets)

2.6 Operations of sets; union, intersection, complement and difference

2.7 Probability Theory and Distribution

2.7.1 Probability Theory

2.7.2 Definitions; event, outcome, experiment, sample space, probability space

2.7.3 Types of events: elementary, compound, dependent, independent, mutually exclusive, exhaustive, mutually inclusive

2.7.4 Laws of probability; additive and multiplicative laws

2.7.5 Conditional probability and probability trees

2.7.6 Expected value, variance, standard deviation and coefficient of variation using frequency and probability

2.7.7 Application of probability and probability distributions to business problems

2.8 Probability Distributions

2.8.1 Discrete and continuous probability distributions Z, F, test statistics (geometric, uniform, normal, t distribution, binomial, Poisson and exponential and chi-square)

2.8.2 Application of probability distributions to business problems

3. **Hypothesis Testing and Estimation**

3.1 The arithmetic mean and standard deviation

3.2 Hypothesis tests on the mean (when population standard deviation is unknown)

3.3 Hypothesis tests on proportions

3.4 Hypothesis tests on the difference between two proportions using Z and t statistics

3.5 Chi-Square tests of goodness of fit and independence

3.6 Hypothesis testing using R statistical software

4. **Correlation and Regression Analysis**

4.1 **Correlation Analysis**

4.1.1 Scatter diagrams

4.1.2 Measures of correlation - product-moment and rank correlation coefficients (Pearson and Spearman) using R software

5. **Regression Analysis**

5.1.1 Simple and multiple linear regression analysis

5.1.2 Assumptions of linear regression analysis
5.1.3 Coefficient of determination, standard error of the estimate, standard error of the slope, t and F statistics

6. **Time series**
6.1 Definition of time series
6.2 Components of time series (circular, seasonal, cyclical, irregular/ random, trend)
6.3 Application of time series
6.4 Methods of fitting trend; freehand, semi-averages, moving averages, least-squares methods
6.5 Models - additive and multiplicative models
6.6 Measurement of seasonal variation using additive and multiplicative models
6.7 Forecasting time series value using moving averages, ordinary least squares method and exponential smoothing

7. **Linear programming**
7.1 Definition of decision variables, objective function and constraints
7.2 Assumptions of linear programming
7.3 Solving linear programming using graphical method
7.4 Solving linear programming using simplex method (basic scenarios)

8 **Decision Theory**
8.1 Definition
8.2 Decision-making process

8.3 Decision-making environment; deterministic situation (certainty)

8.4 Decision making under risk - expected monetary value, expected opportunity loss, risk using the coefficient of variation, the expected value of perfect information

8.5 Decision trees - sequential decision, the expected value of sample information

8.6 Decision making under uncertainty - maximin, maximax, minimax regret, Hurwicz decision rule, Laplace decision rule.

Sample Reading and Reference Material

1. Kothari, U. D. (2017). Quantitative Techniques in Business, Management and Finance: A Case-Study Approach. CRC Press.
2. Taha, H. A. (2018). Operations Research: An Introduction. New Delhi: Pearson India.
3. Groebner, D., Shannon, P., & Fry, P. (2017). Business Statistics: A Decision-Making Approach (10th edition). New York: Pearson.
4. Berenson, M., Levine, D., Szabat, K., & Stephan, D. (2018). Basic Business Statistics: Concepts and Applications. New York: Pearson.
5. Kasneb e-learning resources (link on the Kasneb website).
6. Kasneb approved study packs.

PAPER NO. 6 INTRODUCTION TO FINANCE AND INVESTMENT

UNIT DESCRIPTION
This paper is intended to equip the candidate with knowledge, skills and attitudes that will enable him/her to apply the principles of finance in investment decision making under non-complex scenarios.

LEARNING OUTCOMES
A candidate who passes this paper should be able to:

- Select and apply the techniques and concepts of the time value of money, compounding, discounting, and annualising
- Analyse the risks and returns offered by short-term, liquid instruments
- Calculate non-complex risk and return measures
- Calculate the cost of capital of a firm
- Apply the basic valuation models to determine value of financial securities
- Evaluate the viability of capital investments using appropriate appraisal

CONTENT

1. **Nature and purpose of finance**
    - 1.1 Nature and scope of finance and investment
    - 1.2 Financial decision-making process
    - 1.3 Relationship between accounting and finance
    - 1.4 Goals of a firm
    - 1.5 Roles of a finance manager
    - 1.6 Agency theory; conflicts and resolutions

2. **Financial markets and systems**

    - 2.1 **Market organisation and structure**
        - 2.1.1 The role of financial services industry
        - 2.1.2 Financial system and intermediaries; components of financial system, characteristics of well-functioning financial system and the role of financial system in the economy; financial intermediaries, differences between financial intermediation and financial disintermediation, roles of financial intermediaries
    - 2.2 **Equity markets**
        - 2.2.1 Structure of the equity markets
        - 2.2.2 Primary and secondary markets for securities
        - 2.2.3 Types of equity securities; ordinary shares and preference shares, private versus public equity securities
        - 2.2.4 Features and benefits of investing in equity securities
        - 2.2.5 The risks of owning equity: Price risk; liquidity risk; issuer risk; foreign exchange risk

    - 2.3 **Fixed income securities markets**
        - 2.3.1 Characteristics and terminology of bonds: coupon; redemption; nominal value
        - 2.3.2 Types of fixed income securities
        - 2.3.3 Advantages, disadvantages and risks of investing in bonds
        - 2.3.4 Fixed-income indices; types and construction

2.4 **Alternative investments markets**

2.4.1 Distinction between alternative investments from traditional investments
2.4.2 Categories of alternative investment (real assets, hedge funds, commodities, private equity, mutual funds, open-ended funds, closed - ended funds, collective investment trusts, exchange traded funds, and structured products)
2.4.3 Structures of alternative investments
2.4.4 Goals of alternative investing

2.5 **Derivative markets and instruments**

2.5.1 Overview of derivatives
2.5.2 Types of derivatives: forwards, futures, options and swaps
2.5.3 Role, structure and regulation of global derivatives markets
2.5.4 Derivatives market terminology
2.5.5 Key market participants and roles
2.5.6 The purposes of derivative markets
2.5.7 Criticisms of derivative markets

2.6 **Foreign exchange market**

2.6.1 Function and structure of the foreign exchange market
2.6.2 Mechanics of foreign exchange: The market for foreign exchange; exchange rates (direct and indirect quotations, cross-rate calculations, bid-ask quotes and spreads, cross-rate calculations with bid-ask spreads), exchange rate determination
2.6.3 Parity relationship: interest rate parity, purchasing power parity; international fisher effects
2.6.4 Forecasting exchange rates

2.7 **Mortgage Markets**

2.7.1 Overview of mortgage markets
2.7.2 Mortgage products: consumer and investor perspectives Loan structures
2.7.3 Loan quality and securitization
2.7.4 The business of mortgage financing, opportunities and challenges
2.7.5 Financing affordable housing

3. **The investment environment**

3.1 Types of investments
3.2 The investment processes
3.3 Sources of financial and market data: costs and charges: key investor information documents; prospectuses; financial statements; financial data
3.4 Asset classes: Cash Instruments (Cash Deposits, Money Markets); Bonds, Equities, Property, Foreign Exchange (FX) - to cover computation aspects of exchange rate such as spot rates, forward rates
3.5 Investment management function
3.6 Globalisation and investment

4. **The financing decision**

4.1 Nature and objectives of the financing decision
4.2 Factors to consider when making financing decisions
4.3 Sources of finance for enterprises: Internally generated (retained earnings) and externally generated finance (equity, loan stock, bank lending, leasing, hire purchase, venture capital, franchising; Short term (trade credit, bank financing,

customer advances, factoring, accruals, credit cards, medium (issue of debentures, issue of preference shares, bank loans, fixed deposits, hire purchase, lease financing and long term sources of finance (ordinary shares, preference share capital, retained earnings, debentures, term loans, mortgages, venture capital, asset securitisation, international financing-Euro bonds).

4.4 Advantages and disadvantages of each source of finance
4.5 Factors to consider when selecting the source of finance

5. **Valuation of Assets**

5.1 Concept of value; book value, going concern value, substitution value, replacement value, conversion value, liquidation value, intrinsic value and market value
5.2 Reasons for valuing financial assets/business
5.3 Theories on valuation of financial assets; fundamental theory, technical theory, random walk theory and the efficient market hypothesis
5.4 Valuation of redeemable, irredeemable and convertible debentures, corporate and treasury bonds
5.5 Valuation of redeemable, irredeemable and convertible preference shares
5.6 Valuation of ordinary shares; net asset basis, price earnings ratio basis, capitalisation of earnings basis, Gordon's model, finite earnings growth model, Super-profit model, Walter's model

6. **Cost of capital**

6.1 Significance of cost of capital to firms
6.2 Factors influencing a firm's cost of capital
6.3 Components of cost of capital
6.4 Weighted average cost of capital (WACC)
6.5 Weighted marginal cost of capital (WMCC)

7. **Time-value of money**

7.1 Concept of time value of money
7.2 Relevance of the concept of time value of money
7.3 Time value of money versus time preference of money
7.4 Compounding techniques
7.5 Discounting techniques
7.6 Simple interest and compound interest computations
7.7 Loan amortisation

8. **Introduction to risk and return**

8.1 Sources of risk
8.2 Components of risk and return
8.3 Relationship between risk and return on investments
8.4 Realised and expected rates of return and risk
8.5 Geometric and Arithmetic rates of return
8.6 Measures of risk and return for a single and two assets case
8.7 Risky and risk-free assets

9. **Capital budgeting**
   - 9.1 The nature, importance, characteristics and types of capital investment decisions
   - 9.2 Investment appraisal techniques: accounting rate of return (ARR), payback period; internal rate of return(IRR); net present value(NPV), and profitability index(PI)
   - 9.3 Strengths and weaknesses of the investment appraisal techniques

10. **Introduction to Islamic Finance**
   - 10.1 Principles and trends in Islamic banking
   - 10.2 Differences between Islamic and conventional banking
   - 10.3 The concept of interest (riba) and how returns are made by Islamic financial securities
   - 10.4 Sources of finance in Islamic financing

Sample reading and reference material

1. Pandey, I. M. (2015). Financial Management (11th edition). New Delhi: Vikas Publishing.
2. Brigham, E. F., & Daves, P. R. (2021). Intermediate Financial Management (14th edition). Australia: Cengage Learning.
3. Madura, J. (2021). Financial Markets & Institutions (13th edition). Australia: Cengage Learning.
4. Saunders, A., & Cornett, M. (2018). Financial Markets and Institutions (7th edition). New York: McGraw-Hill Education.
5. Frederic S. Mishkin, S. E. (2017). Financial Markets and Institutions (9th edition). Harlow: Pearson.
6. Kasneb e-learning resources (link on the Kasneb website).
7. Kasneb approved study packs.

INTERMEDIATE LEVEL

PAPER NO. 7 PORTFOLIO MANAGEMENT

UNIT DESCRIPTION
This paper is intended to equip the candidate with the knowledge, skills and attitudes that will enable him/her to apply relevant investment methods and techniques in portfolio management.

LEARNING OUTCOMES
A candidate who passes this paper should be able to:

- Prepare investment policy statements
- Construct optimal portfolios and illustrate the theory and empirical applications of asset pricing models
- Apply portfolio management concepts and techniques to their specific business problems
- Use documents within the Investment sector
- Apply behavioural finance concepts in portfolio management

CONTENT
1. **Overview of Portfolio Management**
    - 1.1 Portfolio perspectives in investments and its importance
    - 1.2 Portfolio management and strategies
    - 1.3 Types of investors, their distinctive characteristics and specific needs
    - 1.4 Investment Vehicles; Pooled investment products (mutual funds, exchange traded funds, separately managed accounts, hedge funds, buyout funds/private equity funds and venture capital funds)
    - 1.5 Portfolio Diversification: Avoiding disaster
    - 1.6 Steps in the Portfolio Management Process: Planning Step; Understanding the client's needs, Investment Objectives, Preparation of an investment policy statement (IPS), Major components of Investment policy statement. Execution Step; Asset Allocation - Asset Allocation Concepts, Types of Asset Allocation, Security Analysis, Portfolio Construction. Feedback Step; Portfolio Monitoring and Rebalancing, Performance Measurement and Reporting
    - 1.7 Introduction to Performance Standards

2. **Introduction to Portfolio Risk and Return**
    - 2.1 Measures of Portfolio risks and estimates: Standard Deviation, Variance and Coefficient of Variation
    - 2.2 Measures of Portfolio return, their calculation, interpretation, and uses: holding period return (HPR), average returns (arithmetic average return, geometric average), time-weighted return, money weighted return, gross return, pre-tax nominal return, after tax nominal return, real return, leveraged return
    - 2.3 Determinants of Required Rates of Return
    - 2.4 Assessing the relationship between Risk and Returns
    - 2.5 Historical Risk Return Characteristics of different asset classes
    - 2.6 Characteristics of major asset classes used to construct portfolios
    - 2.7 Portfolio selection; concept of risk aversion; utility theory

7.8 The effect of the number of assets in a multi asset portfolio on the diversification benefits

3. **Capital Market Theory**

3.1 Modern Portfolio Theories; Risk Return Framework, Efficient Market Hypothesis,
3.2 Portfolio Theory, Capital Assets Pricing Model (CAPM), Arbitrage Pricing Theory (APT)
3.3 Implications of combining a risk-free asset with a portfolio of risky assets
3.4 Capital allocation line (CAL) and capital market line (CML)
3.5 Systematic and non-systematic risks
3.6 Return generating models and their uses
3.7 Capital asset pricing model (CAPM): assumptions; applications; practical limitations; implications
3.8 Security market line (SML) and its application, the beta coefficient, market risk premium
3.9 Market model: predictions with respect to market returns, variances and co-variances
3.10 Adjusted beta and historical beta: their use as predictors of future betas
3.11 Minimum variance frontier: importance and problems related to its instability
3.12 Arbitrage pricing theory (APT): underlying assumptions and its relation to multifactor models, estimation of expected return on an asset given its factor sensitivities and factor risk premiums, determination of existence of an arbitrage opportunity and how to utilise it
3.13 Understanding and interpretation of active risk, tracking error, tracking risk, information ratio, factor portfolio and tracking portfolio

4. **Portfolio Planning and Construction**

4.1 Definition of portfolio planning
4.2 Investment objectives: risk and return objectives for a client
4.3 Investors financial risk tolerance: investors ability (capacity) to bear risk and willingness to take risk
4.4 Investment constraints: liquidity, time horizon, tax issues, legal and regulatory factors, unique circumstances, and their effect to the choice of a portfolio
4.5 Ethical responsibilities of a portfolio manager
4.6 Introduction to asset allocation: Theory and practice, mean – variance model, asset assumptions, alpha and beta, diversified asset allocation, consolidated asset allocation
4.7 Factors affecting asset allocation: Goals factors, risk tolerance and time horizon
4.8 Strategies for asset allocation: Age based asset allocation, life cycle funds asset allocation, constant weight asset allocation, tactical asset allocation, insured asset allocation, Dynamic asset allocation

5. **Active Portfolio Management**

5.1 Definition of active portfolio management
5.2 Alpha and information ratio (IR): post ante and ex ante definitions
5.3 Relationship between information ratio and alphas T-statistic
5.4 The concept of the value added (VA) and the objective of active portfolio management in terms of value added
5.5 The optimal level of residual risk to be assumed with respect to manager ability and investor risk aversion
5.6 Relationship between the choice of a particular active strategy and investor risk aversion

5.7 The ‘Fundamental law of active management’: Definition; assumptions; relationship between the optimal level of residual risk, information coefficient, and breadth; relationship between the value added, information coefficient, and breadth
5.8 Information coefficient (IC) and breadth (BR) as used in determining information ratio
5.9 Market timing versus security selection in relation to breadth and investment skill
5.10 Effect of augmenting original investment strategy with other investment strategies or information changes

6. **Documentation of the Investment Sector**
6.1 Investment documents
6.2 Objectives of documentation
6.3 Document classification systems
6.4 Types of internal documentation
6.5 Types of external documentation
6.6 Document management

7. **Evaluating Portfolio Performance**
7.1 Dollar weighted rates of return
7.2 Time weighted rates of return
7.3 Other performance measures
7.4 Risk- adjusted performance measures: Sharpe, Treynor, Jensen, risk- adjusted return on capital, return over maximum drawdown, and the Sortino ratio
7.5 Value at risk (VaR): its role in measuring overall and individual position market risk.
7.6 Methods for estimating VaR: The analytical (variance–covariance), historical and Monte Carlo methods
7.7 Extensions of VaR: Cash flow at risk, earnings at risk, and tail value at risk
7.8 Stress testing and its alternative types
7.9 Use of VaR and stress testing in setting capital requirements

8. **Behavioural Finance**
8.1 Introduction to behavioural finance: definition; traditional finance versus behavioural finance
8.2 Behavioural Biases: Overconfidence and individual investors, Overconfidence and professional investors, Disposition effect, Risk perceptions, Prospect theory, Decision frames, Mental accounting, Familiarity and representativeness. Behavioural portfolio management; Herding, Social interaction, Emotions and investment decisions
8.3 Expected utility versus prospect theories of investment decision
8.4 Effect of cognitive limitations and bounded rationality on investment decision making
8.5 Behavioural biases of individuals: cognitive errors versus emotional biases; commonly recognised behavioural biases for financial decision making and their implications; individual investor’s behavioural biases; the effects of behavioural biases on investment policy and asset allocation decisions, and how these effects could be mitigated
8.6 Behavioural finance and investment process: Uses and effects of classifying investors in personality types; effects of behavioural factors on advisor client interactions; the influence of behavioural factors on portfolio construction; application of behavioural finance on portfolio construction process; effects of

behavioural factors on an investment analyst forecasts and investment committee decision making: mitigation of these effects

9. **Private Wealth Management**
   - 9.1 Introduction to wealth management
   - 9.2 The wealth management process
   - 9.3 Taxes: local taxation regimes as in relation to the taxation of dividend, income, interest income, realised capital gains, and unrealised capital gains, impact of different types of taxes and tax regimes on future wealth, computation of accrual equivalent tax rates and after-tax returns, tax profiles of different types of investment accounts and explain how taxes and asset allocation relate.
   - 9.4 Estate planning: purpose of estate planning and the basic concepts of domestic estate planning, forms of wealth transfer taxes and impact of important non tax issues such legal system, a family's core capital and excess capital
   - 9.5 Wealth Management products and services: alternative investments, hedge funds, setting up trusts, equity, fixed income and structured products

10. **Contemporary issues and emerging trends**
   - 10.1 Investing in International Markets
   - 10.2 Stock lending
   - 10.3 Program trading
   - 10.4 Case studies on the application of portfolio management

Sample reading and reference materials

1. Levin, G., & Wyzalek, J. (2015). Portfolio Management: A Strategic Approach. Florida: CRC Press.
2. Hunt, P., & Kennedy, J. (2004). Financial Derivatives in Theory and Practice (Revised edition). London: John Wiley & Sons.
3. Kevin, S. (2006). Security Analysis and Portfolio Management. New Delhi: Prentice Hall India.
4. Kasneb e-learning resources (link on the kasneb website).
5. Kasneb approved study packs.

PAPER NO. 8 FINANCIAL STATEMENTS ANALYSIS

UNIT DESCRIPTION

This paper is intended to equip the candidate with the knowledge, skills and attitudes that will enable him/her to analyse and interpret the financial statements of a firm.

LEARNING OUTCOMES

A candidate who passes this paper should be able to:

- Demonstrate an understanding of the roles of the statement of financial position, statement of comprehensive income, statement of changes in equity, and statement of cash flows in evaluating a company's performance and financial position
- Identify and evaluate the information sources that analysts use in financial statement analysis besides annual financial statements and supplementary information/various alternative sources of financial information
- Prepare financial statements, including consolidated financial statements, in accordance with IFRSs or other relevant standards
- Analyse financial statements and related disclosures
- Project financial statements such as statement of financial position, income statement, budgets among others

CONTENT

1. **Overview of financial statements analysis**
   - 1.1 Definition of financial statements analysis
   - 1.2 The roles of financial reporting and financial statements analysis
   - 1.3 Different reporting environment frameworks (financial reporting standards setting boards - International Accounting Standards Board - IASB, Financial Reporting Standards - FASB and regulatory authorities
   - 1.4 Objective of financial statements
   - 1.5 Steps in analysing financial statements (Define the purpose and context of analysis, collect data, process data, analyse data, communicate recommendations and periodic reviews)
   - 1.6 Importance and challenges of financial statements analysis: change, globalism and technology
   - 1.7 Sources of information for analysis (financial statements - statement of financial position, comprehensive incomes statement, statement of cash flows, statement of changes in owners' equity, auditors' report, notes to financial statements, management commentary, supplementary information, sustainability reports and integrated reports), filing with regulatory authorities and press reports)
   - 1.8 Approaches to analysing financial statements (macroeconomic environment, industry and company - either top down or bottom up)

2. **Financial reporting on assets and liabilities**
   - 2.1 Structure and format of the statement of financial position
   - 2.2 Current assets and non- current assets
   - 2.3 Current liabilities and non- current liabilities
   - 2.4 Investment properties; presentation, measurement (historical cost and fair value) and disclosure
   - 2.4 Non-recurrent items and non-operating items; discontinued operations (exclude disposal of subsidiaries) extra ordinary items, unusual or infrequent items, changes in accounting policies

2.5 Financial instruments (financial assets and financial liabilities): marketable securities, derivatives, hedges etc., presentation, recognition, measurement, de-recognition, disclosures and impairment
2.6 Non-current assets held for sale
2.7 Intangible assets; finite useful life and indefinite useful life, amortisation and impairment, disclosures.
2.8 Leases: Types of leases (operating and finance lease); presentation, disclosure, recognition, off balance sheet leverage from operating leases.
2.9 Income taxes: accounting profit and taxable income (Differences between the recognition of revenue and expenses for tax and accounting purposes), deferred tax assets and liabilities, tax base of assets and liabilities, current tax payable, temporary and permanent timing differences, recognition and measurement of current and deferred tax, presentation and disclosure
2.10 Employee benefits (post-employment benefits): types of post-employment benefits; impact of the assumptions used such as discount rates, return on plan assets and salary growth on the defined benefit obligation and period expenses; pension plan footnote disclosure, effect on underlying economic liability (asset) of a company's pension and other post-employment benefits; share based compensation
2.11 Multinational operations: foreign currency transactions; translation of foreign currency in the financial statements, effects of changing prices and inflation
2.12 Accounting policies, changes in accounting estimates and errors (prior period errors)
2.13 Events after the reporting period
2.14 Impact of taxation on financial analysis

3. **Financial statement analytical tools**

3.1 Financial analysis techniques; financial analysis framework/process; computations and analysis
3.2 Value, purpose and limitation of ratio analysis
3.3 Calculation and Interpretation of ratios in context
3.4 Profitability analysis: Desegregation and interpreting return on assets (ROA), return on capital employed (ROCE), relating ROA to ROCE, DuPont analysis, Return on shareholders' fund (ROSF); Analysis of growth and sustainable earning; growth analysis, analysis of changes in profitability and sustainable earnings, analysis of growth in shareholder's equity, growth, sustainable earnings and the evaluation of price to book (P/B) ratios and price to earnings (P/E) ratios
3.5 Dividend ratios: Dividends pay-out ratio, dividend yield
3.6 Analysis of liquidity and efficiency-current ratios, quick ratio/acid test ratio, cash ratio, and cash conversion cycle, receivable turnover in days, payables turnover days, inventory turnover days, working capital requirements and measures.
3.7 Solvency analysis: debt to assets ratio, debt to total capital ratio, interest coverage.
3.8 Investment analysis: Return on investment (ROI) among others
3.9 Analytical tools and techniques; ratio analysis, common size analysis, regression analysis (use of scatter plots), technical and fundamental analysis, and graphical presentation (pie charts and bar charts)
3.10 Model building and forecasting; sensitivity analysis, scenario analysis, simulation (Monte Carlo simulation).
3.11 Application of ratio analysis – cross sectional analysis, trend analysis, forecast financial statements, credit analysis and rating, equity analysis

4. **Analysing the financial statements**

4.1 Income statement: Components (revenues and expenses) and format of the income statement (multi step and single step), revenue recognition and expenses recognition; analysis of the income statement-common size analysis (Horizontal and vertical) and ratio analysis, convert income statements to common - size income statements; evaluate a company's financial performance using common - size income statements and financial ratios based on the income statement;

4.2 Statement of financial position; components and format of statement of financial position (assets, liabilities and equity), off balance sheet items; analysis of the statement of financial position-common size analysis (Horizontal and Vertical), cross sectional analysis, ratio analysis, convert balance sheets to common- size balance sheets and interpret common- size balance sheets;

4.3 Statement of changes in equity; components of equity, equity valuation ratios, demonstrate the application of DuPont analysis of return on equity and calculate and interpret effects of changes in its components;

4.4 Cash flow statements; component and format of the cash flow statement, categories of cash flow items (operating activities, investment activities and financing activities) direct and indirect methods for preparing cash flow statements; cash flow statement analysis-evaluation and uses of cash, common size analysis, free cash flow to the firm and free cash flow to equity, cash flow ratios, analyse and interpret both reported and common- size cash flow statements; calculate and interpret free cash flow to the firm, free cash flow to equity, and performance and coverage cash flow ratios.

4.5 Understand and analyse the pervasive importance of income tax effect on reported financial results.

5. **Quality of earnings and earnings management**

5.1 Simple measures of earnings quality (selection and application of accounting principles and business risk)

5.2 Categories of earnings: Earnings before interest, tax depreciation and amortisation (EBITDA), operating earnings, Earnings before interest and tax, earnings after tax (EBIT), earnings after tax, net income, among others.

5.3 Measures of the accrual component of earnings and earning quality

5.4 Earnings per share (EPS); Basic EPS, diluted EPS, using EPS to value firms, simple and complex capital structure, criticism of EPS.

5.5 Price to earnings ratio (P/E ratio)

5.6 Segment reporting; geographical segments, segment disclosure requirements, segment ratios (segment margin, segment turnover, segment ROA, Segment debt ratio)

6. **Intercorporate investments**

6.1 Subsidiaries

6.2 Associate companies

6.3 Jointly controlled entities

6.4 Measurement and disclosure

6.5 Evaluating the effect of inter-corporate investments on financial statements given the different accounting treatment

7. **Key sectorial ratios and metrics**

7.1 Market benchmarks: Key sectorial ratios and industry specific metrics; consumer information, competitors' performance, market expectations.

8. **Qualitative and other current issues in the Analysis of financial statements**
   - 8.1 Qualities of useful financial statements; relevance, comparability, verifiability, predictive value, faithful representation and neutrality.
   - 8.2 Analysis of company prospects and risks using qualitative information (strategy and business environment analysis)
   - 8.3 Red flags and accounting warning signs that may indicate financial statements are of poor quality
   - 8.4 Accounting scandals: Case studies
   - 8.5 Accounting shenanigans on the cash flow statement; creative accounting and manipulating financial statements
   - 8.6 Misrepresentation in the financial statements
   - 8.7 Improper manipulation of earnings
   - 8.8 Adjustments that may be required to make financial statements comparable

9. **Contemporary issues and emerging trends**
   Accounting for climate changes and analysis of financial statements

Sample study and reference material

1. Subramanyam, K. R. (2014). Financial Statement Analysis (11th edition). New York: McGraw-Hill.
2. Gibson, C. H. (2013). Financial Reporting and Analysis - Using Financial Accounting Information (13th edition). Australia: South-Western.
3. Robinson, T. R., Henry, E., & Pirie, W. L. (2020). International Financial Statement Analysis (4th edition). Wiley.
4. Kasneb e-learning resources (link on the kasneb website).
5. Kasneb approved study packs.

PAPER NO. 9 EQUITY INVESTMENTS ANALYSIS

UNIT DESCRIPTION
This paper is intended to equip the candidate with the knowledge, skills and attitudes that will enable him/her to analyse and value equity investments.

LEARNING OUTCOMES
A candidate who passes this paper should be able to:
- Undertake industry and company analysis
- Determine the value of equity securities
- Apply various models in valuing equity investments
- Calculate and interpret equity valuation multiples
- Undertake valuation of private companies
- Apply the concepts of equity market equilibrium
- Use case studies in equity investment

CONTENT
1. **Overview of equity markets and structure**
    - 1.1 Structure of the equity market: Financial system and intermediaries; components of financial system, characteristics of well-functioning financial system and the role of financial system in the economy, financial intermediaries' classifications, services offered, differences between financial intermediation and financial disintermediation, roles of financial intermediaries.
    - 1.2 Primary and secondary markets for equity securities
    - 1.3 Trading equity securities; Types of market orders
    - 1.4 Types of equity securities; ordinary shares (features, types, advantages and limitations; preference shares (features, types, advantages and limitations), private versus public
    - 1.5 Investing in foreign equity securities; factors to consider when making foreign equity investment, reasons for investing in foreign equity and challenges.
    - 1.6 Risk and return characteristics of different types of equity securities
    - 1.7 Market value and book value of equity securities importance
    - 1.8 Comparison of a company's cost of equity, accounting rate of return and investors' required rate of return
    - 1.9 Equity security and company value

2. **Fundamental analysis**
    - 2.1 Components of fundamental analysis; economic analysis, industry analysis and company analysis
3. **Overview of company analysis**
    - 3.1 Elements that should be covered in a thorough company analysis; forecasting of the following costs: cost of goods sold, selling general and administrative costs, financing costs, and income taxes
    - 3.2 Comparing estimated values and market prices; information efficiency and efficient market hypothesis
    - 3.3 Approaches to balance sheet modelling
    - 3.4 Growth companies and growth stocks; defensive company and stocks; cyclical companies and stocks; speculative companies and stocks.
    - 3.5 The elements of a competitive analysis for a company.
    - 3.6 Contrast top-down and bottom-up approaches to economic forecasting.
    - 3.7 The importance of quality of earnings analysis in financial forecasting and identify the sources of information for such analysis.

3.8 Quality of earnings indicators and risk factors.

4. **Overview of industry analysis**
4.1 The uses of industry analysis and the relation between industry analysis and company analysis
4.2 Methods by which companies can be grouped, current industry classification systems, and classification of companies given description of activities and the classification system
4.3 Factors that affect the sensitivity of a company to the business cycle and the uses besides limitations of industry and company descriptors such as “growth,” “defensive,” and “cyclical”
4.4 Company’s industry classification process to classify a potential “peer group” for equity valuation
4.5 Elements that need to be covered in a thorough industry analysis
4.6 Principles of strategic analysis of an industry; competitive forces that shape strategy; effect of competitive forces on prices and costs
4.7 Effects of barrier to entry, industry concentration, industry capacity, and market share stability on pricing power and return on capital
4.8 Product and industry life cycle models; Classification of industry as to life cycle phases (embryonic, growth, shakeout, maturity and decline); limitations of life-cycle concept in forecasting industry performance
4.9 Comparison of representative industries from various economic sectors
4.10 Macroeconomic, Demographic, governmental, social and technological influences on industry growth, profitability and risk

5. **Market efficiency**
5.1 The concept of market efficiency: definition and assumptions; importance of market efficiency to investment participants
5.2 Market value and intrinsic value
5.3 Factors affecting a market’s efficiency
5.4 Forms of market efficiency: weak form, semi-strong form and strong form; implications of each form of market efficiency for fundamental analysis, technical analysis and the choice between active and passive portfolio management
5.5 Random walk theory and efficient markets
5.6 Tests of market efficiency
5.7 Market pricing anomalies; Time series anomalies, Cross sectional anomalies, other anomalies and implications for investment strategies

6. **Technical analysis**
6.1 Overview of technical analysis: definition, assumptions, principles, differences between technical and fundamental analysis, advantages and disadvantages
6.2 Technical analysis tools – charts, trends, chart patterns, technical indicators, cycles
6.3 Dow theory: overview; assumptions; Using Dow Theory Concepts in Forex Trading, interpretation
6.4 Elliott wave theory: overview; principle of the theory, assumptions; interpretation
6.5 Trend analysis
6.6 Relationships between market efficiency and technical analysis; application of behavioural finance in technical analysis
6.7 Contrary opinion rules in relation to technical analysis
6.8 Forecasting methodology: conditional forecasting, economic forecasting
6.9 Market analysis

7. **The equity valuation processes**

7.1 Overview of equity valuation: Definition of value and the concept of alpha; the relationship between alpha and perceived mispricing; intrinsic value; contrast the going-concern concept of value to the concept of liquidation value

7.2 The steps in equity valuation process, and the objectives and tasks within each step

7.3 Valuation models in equity valuation; the importance of expectations in the use of valuation models, uses of valuation models; the use of valuation models within the context of traditional and modern concepts of market efficiency; absolute and relative valuation models

7.4 Alternative to traditional analysis techniques: cash flow returns on investment

7.5 The role of valuation in portfolio management

7.6 Contrast quantitative and qualitative factors in valuation

7.7 Covered under definition of value criteria for choosing an appropriate approach for valuing a particular company.

7.8 The role of ownership perspective in valuation

7.9 The contents and format of an effective research report

7.10 The responsibilities of analysts in performing valuations and communicating valuation results

7.11 Effects of inflation on the valuation process

8. **Discounted dividend valuation**

8.1 Streams of cash flow; compare of dividends, free cash flow, and residual income as inputs to discounted cash flow models and identify investment situations for which each measure is suitable.

8.2 The Dividend Discount Model: Calculate and interpret the value of shares using the dividend discount model (DDM) for single and multiple holding periods.

8.3 Valuation of shares using the Gordon growth model and the model's underlying assumptions.

8.4 Gordon Growth Model: Computation and interpretation of implied growth rate of dividends using the Gordon growth model and current share price.

8.5 Calculation of the value of noncallable fixed-rate perpetual preferred shares.

8.6 The Present Value of Growth Opportunity: Calculation and interpretation of the present value of growth opportunities (PVGO) and the component of the leading price-to-earnings ratio (P/E) related to PVGO.

8.7 Calculation and interpretation of the justified leading and trailing P/Es using the Gordon growth model.

8.8 The strengths and limitations of the Gordon growth model and justify its selection to value a company's common shares.

8.9 The assumptions and justification of the two-stage DDM, the H-model, the three-stage DDM, or spreadsheet modeling to value a company's common shares.

8.10 The growth phase, transitional phase, and maturity phase of a business.

8.11 The terminal value and alternative approaches to determining the terminal value in a DDM.

8.12 Calculation and interpretation of the value of common shares using the two-stage DDM, the H-model, and the three-stage DDM.

8.13 Estimation of a required return based on any DDM, including the Gordon growth model and the H-model.

8.14 The use of spreadsheet modeling to forecast dividends and to value common shares.

8.15 Estimation and interpretation the sustainable growth rate of a company and the use of DuPont analysis to estimate a company's sustainable growth rate;

8.16 Evaluation of whether a company’s share is overvalued, fairly valued, or undervalued by the market based on a DDM estimate of value.
8.17 Free cash flow valuation
8.18 Free cash flow to firm (FCFF) and free cash flow to equity (FCFE) valuation approaches: defining free cash flow, present value of free cash flow, single stage FCFF and FCFE growth models compare the free cash flow to the firm (FCFF) and free cash flow to equity (FCFE), The ownership perspective implicit in the FCFE approach
8.19 The appropriate adjustments to net income, earnings before interest and taxes (EBIT), earnings before interest, taxes, depreciation, and amortization (EBITDA), and cash flow from operations (CFO) to calculate FCFF and FCFE to calculate FCFF and FCFE; Approaches for forecasting FCFF and FCFE; computing FCFF from net income (NI), computing FCFF from the statement of cash flows , Further issues with free cash flow analysis; compare the FCFE model and dividend discount models; how dividends, share repurchases, share issues, and changes in leverage may affect future FCFF and FCFE
8.20 Free cash flow model valuations; the single-stage (stable-growth), two-stage, and three-stage FCFF and FCFE models and select and justify the appropriate model given a company's characteristics.; company value and the free cash flow model(s); the use of sensitivity analysis in FCFF and FCFE valuations; free cash flow valuation models and determination of overvaluation vs. undervaluation
8.21 Terminal value; approaches for calculating the terminal value in a multistage valuation model.

9. **Valuation Multiples**

9.1 Overview of valuation multiples: Definition and importance; rationale and drawbacks for using valuation multiples

10. **Price multiples**

10.1 Method of comparable and the method based on forecasted fundamentals as approaches to using price multiples in valuation
10.2 Alternative price multiples and dividend yield in valuation; fundamental factors that influence alternative price multiples and dividend yield
10.3 Normalised earnings per share (EPS) and its calculation
10.4 Measures of relative value: Price-to-earnings (P/E) ratio, Price-to-book (P/B) ratio, Price-to-cash flow ratio and Price-to-sales (P/S) ratio
10.5 Predicted P/E regression

11. **Enterprise value multiples**

11.1 Alternative definition of cash flow
11.2 Enterprise value multiples and its use in estimating equity value
11.3 Momentum indicators and their use in valuation
11.4 Sources of differences in cross boarder valuation comparisons

12. **Residual income valuation**

12.1 Residual income concept - economic value added (EVA), and market value added (MVA) concepts and their applications
12.2 Residual income valuation model- the uses of residual income models; calculation of intrinsic value of a common share using the residual income model and comparison of residual income to other present value models;
12.3 Fundamental determinants of residual income-; relationship between residual income valuation and the justified price-to-book ratio based on forecasted

fundamentals; calculation and interpretation of the intrinsic value of a common share using single-stage (constant-growth) and multistage residual income models;

12.4 Calculation of implied growth rate in residual income- given the market price-to-book ratio and required rate of return on equity;

12.5 Multistage residual income valuation-single stage and multi-stage residual income valuation Residual income valuation in relation to other approaches- comparison between residual income models and dividend discount and free cash flow models; strengths and weaknesses of residual income models and justification of selection of a residual income model to value a company's shares

12.6 Accounting and international considerations- accounting issues in applying residual income models;

12.7 Evaluate whether a stock is overvalued, fairly valued, or undervalued based on a residual income model.

13. **Private company valuation**

13.1 Private and public company valuation: similarities and contrasts - Reasons for performing private company valuations; uses of private business valuation and applications of greatest concern to financial analysts;

13.2 Definitions (standards) of value; definitions of value and how different definitions can lead to different estimates of value;

13.3 Valuation approaches, earnings normalization and cash flow estimation issues; the income, market, and asset-based approaches to private company valuation and factors relevant to the selection of each approach; cash flow estimation issues related to private companies and adjustments required to estimate normalized earnings;

13.4 Income approach methods of private company valuation; determination of the value of a private company using free cash flow, capitalized cash flow, and/or excess earnings methods;

13.5 Factors that require adjustment when estimating the discount rate for private companies; comparing various models used to estimate the required rate of return to private company equity (for example, the CAPM, the expanded CAPM, and the build-up approach);

13.6 Market approach methods of private company valuation; use of market value method to the value of a private

13.7 Advantages and disadvantages of each method;

13.8 Asset-based approach to private company valuation; use of the asset-based approach to value a private

13.9 Valuation discounts and premiums; the effects on private company valuations of discounts and premiums based on control and marketability.

13.10 The role of valuation standards in the valuation of private companies; the role of valuation standards in valuing private companies.

14. **Equity market equilibrium**

14.1 Justification for the short term and long-term equilibrium

14.2 Grinold-Kroner model

14.3 Yardeni model

14.4 Tobins Q

14.5 Short term valuation methods

14.6 Stock market diversity and its measure (entropy)

Sample study and reference material

1. Brigham, E. F., & Daves, P. R. (2021). Intermediate Financial Management (14th edition). Australia: Cengage Learning.
2. Pike, R., Neale, B., & Akbar, S. (2018). Corporate Finance & Investment: Decisions and Practices (9th edition). Harlow: Pearson Education.
3. Hampton, J. J. (1989). Financial Decision Making: Concepts, Problems and Cases (4th edition). Prentice Hall.
4. Kasneb e-learning resources (link on the Kasneb website).
5. Kasneb approved study packs.

PAPER NO. 10 CORPORATE FINANCE

UNIT DESCRIPTION
This paper is intended to equip the candidate with the knowledge, skills and techniques that will enable him/her to make effective corporate financial decisions.

8.0 LEARNING OUTCOMES
A candidate who passes this paper should be able to:

- Analyse the cost of capital of various sources of debt and equity in a firm
- Formulate appropriate capital structure decisions and select the optimal capital structure of a firm
- Appraise and formulate capital budgeting decisions under environment of certainty, uncertainty and risk
- Manage working capital for a firm
- Analyse mergers and acquisitions and corporate restructuring in firms
- Advise on dividend policy decisions

CONTENT

1. **Overview of Corporate Finance**
   - 1.1 Nature and scope of corporate finance
   - 1.2 Overview of financial decision-making process
   - 1.3 Functions of a finance manager
   - 1.4 The goals of a firm
   - 1.5 Agency theory concepts, conflicts and resolutions
   - 1.6 Measuring managerial performance, compensation and incentives.

2. **Capital Structure**
   - 2.1 Sources of capital
   - 2.2 Factors to consider when selecting source of funds
   - 2.3 Capital structure of a firm and factors influencing capital structure
   - 2.4 Evaluation of financing proposals and determination of operating profit/EPS at the point of indifference, range of combined operating profit within which to recommend the financing option, lease vs. buy decisions
   - 2.5 Capital structure theories: traditional theories; net income (NI) approach; net operating income (NOI) approach; Franco Modigliani and Merton Miller (MM) propositions-MM without taxes, MM with corporate taxes, MM with corporate and personal taxes, and MM with taxes and financial distress costs; trade-off theory and pecking order theory.
   - 2.6 Target capital structure; reasons why a company's actual capital structure may fluctuate around its target
   - 2.7 Measures of leverage: Overview of leverage; importance of business risk, sales risk, operating risk, and financial risk in leverage; classification of a risk; degree of operating leverage, the degree of financial leverage, and the degree of total leverage; breakeven quantity of sales and determination of the company's net income at various sales levels; computation of the operating breakeven quantity of sales, evolution of financing options and determination of operating profit (EBIT)/EPS at the point of indifference, range of combined operating profit (EBIT) within each financing

3. **Cost of Capital**
   - 3.1 The concept and significance of cost of capital
   - 3.2 Components of cost of capital
   - 3.3 Weighted average cost of capital (WACC)
   - 3.4 Marginal cost of capital (MCC)
   - 3.5 Use of marginal cost of capital and the investment opportunity schedule in determination of the optimal capital budget
   - 3.6 Cost of debt capital using the yield-to-maturity approach and the debt-rating approach
   - 3.7 Computation of the cost of non-callable and nonconvertible preferred shares
   - 3.8 Computation of the cost of equity capital using the capital asset pricing model, the dividend discount model, and the bond-yield-plus risk-premium approach
   - 3.9 Computation of the beta and cost of capital for a project
   - 3.10 Uses of country risk premiums in estimating the cost of equity

4. **Capital Investment Decisions**
   - 4.1 **Capital Investment Decisions under Certainty**
     - 4.1.1 Nature of capital investment decisions under certainty
     - 4.1.2 Classification of capital budgeting decisions
     - 4.1.3 Ideal features of a capital budgeting technique
     - 4.1.4 Categories of capital projects
     - 4.1.5 Basic principles of capital budgeting; evaluation and selection of capital projects: mutually exclusive projects and project sequencing
     - 4.1.6 Capital budgeting techniques under certainty
     - 4.1.7 Estimating project cash flows.

   - 4.2 **Capital Investment Decisions under Uncertainty**
     - 4.2.1 Nature and measurement of risk and uncertainty
     - 4.2.2 Investment decision under capital rationing: multi period; investment decision under inflation, investment decision under uncertainty/risk
     - 4.2.3 Techniques of handling risk: sensitivity analysis; scenario analysis; simulation analysis; decision theory models; certainty equivalent; risk adjusted discount rates; utility curves
     - 4.2.4 Special cases in investment decisions: projects with unequal lives; replacement analysis; abandonment decisions
     - 4.2.5 Real options in investment decisions: types of real options; evaluation of capital projects using real options
     - 4.2.6 Common capital budgeting pitfalls
     - 4.2.7 Computation of accounting income and economic income in the context of capital budgeting
     - 4.2.8 Evaluation of a capital project using economic profit, residual income, and claims valuation models for capital budgeting.

5. **Management of Working Capital**
   - 5.1 Factors influencing working capital requirements of a firm
   - 5.2 Distinction between working capital and management of working capital
   - 5.3 Working capital concepts; gross and net working capital; seasonal and permanent working capital
   - 5.4 Primary and secondary sources of liquidity; factors that influencing a company's liquidity position
   - 5.5 Company's liquidity measures in comparison to those of peer companies

5.6 Evaluation of working capital effectiveness of a company based on its operating and cash conversion cycles; comparison of the company's effectiveness with that of peer companies
5.7 Effect of different types of cash flows on a company's net daily cash position
5.8 Computation of comparable yields on various securities; evaluation of a company's short-term working capital investment and financing policy guidelines
5.9 Company's management of accounts receivable, inventory, cash and accounts payable over time and compared to peer companies
5.10 Evaluation of the choices of short-term funding available to a company
5.11 Profitability- liquidity trade-off.

6. **Mergers and Acquisitions**

6.1.1 Classification of merger and acquisition (M&A) activities based on forms of integration and relatedness of business activities
6.1.2 Common motivation and demotivation behind mergers and acquisitions; mergers and acquisition in global context
6.1.3 Bootstrapping of earnings per share (EPS); computation of a company's post-merger EPS
6.1.4 The relationship between merger motivations and types of mergers based on industry life cycles
6.1.5 Contrast merger transaction characteristics by form of acquisition, method of payment and attitude of target management
6.1.6 Pre-offer defence mechanisms and post-offer takeover defence mechanisms
6.1.7 Computation of Herfindahl-Hirschman Index, and the likelihood of an antitrust challenge for a given business combination
6.1.8 Discounted cash flow analysis, comparable company analyses, and comparable transaction analyses for valuing a target company, including the advantages and disadvantages of each
6.1.9 Computation of free cash flows for a target company, and estimation of the company's intrinsic value based on discounted cash flow analysis
6.1.10 Estimation of the value of a target company using comparable company and comparable transaction analyses
6.1.11 Evaluation of a takeover bid; computation of the estimated post-acquisition value of an acquirer and the gains accrued to the target shareholders versus the acquirer shareholders
6.1.12 Effect of price and payment method to the distribution of risks and benefits in M&A transactions
6.1.13 Characteristics of M&A transactions that create value
6.1.14 Reasons for failed mergers
6.1.15 Emerging trends in mergers and acquisitions.

7. **Analysis of Corporate Growth and Restructuring**

7.1.1 Measurements of growth: methods of determining growth rates, sustainable versus non sustainable growth analysis of potential growth, franchise value and the growth process
7.1.2 Return on assets (ROA) and return on capital (ROC)
7.1.3 Common reasons for restructuring
7.1.4 Relative company return analysis
7.1.5 Valuation and analysis of corporate restructuring; leveraged buyouts (LBO); divestitures; strategic alliances; liquidation; recapitalisation
7.1.6 Financial distress, predicting organisational failure, solutions to financial distress

- 7.1.7 Financial restructuring; restructuring via capital reorganisation, the impact of financial restructuring on share price and WACC; forms of financial restructuring
- 7.1.8 Portfolio restructuring; divestment, demergers, spinoffs, liquidation, equity carve-outs, MBO and management buy in
- 7.1.9 Organisational restructuring and emerging trends in corporate restructuring.

8. **Dividend Policy**
   - 8.1.1 Forms of dividends: Regular cash dividends, extra dividends, liquidating dividends, stock dividends, stock splits, and reverse stock splits: their expected effect on shareholders' wealth and a company's financial ratios
   - 8.2 Dividend payment chronology: Declaration date, holder-of-record date, ex-dividend date, and payment dates
   - 8.3 Theories of dividend policy
   - 8.4 Types of information (signals) that dividends convey
   - 8.5 Clientele effects and agency issues: their effect on a company's payout policy
   - 8.6 Factors that affect dividend policy of a firm
   - 8.7 Dividend payout policies; stable dividend, constant dividend, payout ratio, and residual dividend
   - 8.8 Choice between paying cash dividends and repurchasing shares
   - 8.9 Calculation and interpretation of dividend coverage ratios under net income and free cash flow
   - 8.10 Emerging trends of dividend policy in corporate firms.

9. **Islamic Finance**
   - 9.1 Justification for Islamic Finance; history of Islamic finance; capitalism; halal; haram; riba; gharar; usury
   - 9.2 Principles underlying Islamic finance: principle of not paying or charging interest, principle of not investing in forbidden items example alcohol, pork, gambling or pornography; ethical investing; moral purchases
   - 9.3 The concept of interest (riba) and how returns are made by Islamic financial securities
   - 9.4 Sources of finance in Islamic financing: muhabaha, sukuk, musharaka, mudaraba
   - 9.5 Types of Islamic financial products: - sharia-compliant products: Islamic investment funds; Takaful the Islamic version of Insurance Islamic Mortgage, Murabahah; Leasing- Ijara; safekeeping- Wadiah; Sukuk- Islamic bonds and securitisation; Sovereign sukuk; Islamic investment funds; Joint venture - Musharaka, Islamic banking, Islamic contracts, Islamic treasury products and hedging products, Islamic equity funds; Islamic derivatives
   - 9.6 International standardisation/regulations of Islamic Finance: Case for standardisation using religious and prudential guidance, National regulators, Islamic Financial Services Board.

10. **Green/Environmental Finance**
    - 10.1 The nature and scope of green or environmental finance
    - 10.2 Green financing strategies and challenges
    - 10.3 Carbon finance, emissions trading, green trading and renewable energy
    - 10.4 Green finance trading of financial instruments
    - 10.5 Valuation of green financial instruments namely; green bonds, green stocks, green derivatives, grants and guarantees
    - 10.6 Theoretical and methodological approaches in developing green financial framework

10.7 Modern risks emerging from ecological, social, and geopolitical environment in green finance context
10.8 Green finance trends and regulation locally and globally

11 Corporate Risk Management

11.1 The nature and scope of corporate risk management in firms
11.2 Value of risk management and comparative advantages of risk taking
11.3 Value at risk and numerical and parametric methods of VaR in a firm
11.4 Description of CVaR and CVaR in Basel Regulation
11.5 Regulation of Bank risk and use of VaR
11.6 Risk management, corporate governance and financial crisis
11.7 Corporate risk management trends in firms

Sample reading and reference material

1. Brealey, R. A., Myers, S. C., & Allen, F. (2019). Principles of Corporate Finance (13th edition). Boston: McGraw-Hill Education.
2. Brigham, E. F., & Daves, P. R. (2021). Intermediate Financial Management (14th edition). Australia: Cengage Learning.
3. Dionne, G. (2019). Corporate Risk Management: Theories and Applications. New Jersey: Wiley.
4. Ross, S., Westerfield, R., & Jordan, B. (2021). Fundamentals of Corporate Finance (13th edition). New York: McGraw-Hill.
5. Thompson, S. (2021). Green and Sustainable Finance: Principles and Practice. London: KoganPage.
6. Kasneb e-learning resources (link on the Kasneb website)
7. Kasneb approved study packs

PAPER NO. 11 PUBLIC FINANCE AND TAXATION

UNIT DESCRIPTION

This paper is intended to equip the candidate with knowledge, skills and attitudes that will enable him/her to apply public financial management principles, implement public financial management regulations at middle management levels and to prepare non-complex tax computations for individuals and corporates.

LEARNING OUTCOMES

A candidate who passes this paper should be able to:

- Apply public financial management requirements in practice in non-complex environments in both the public and private sectors
- Compute taxes for various individuals and entities
- Apply the written taxation laws in addressing various tax issues
- File tax returns
- Undertake non-complex tax reviews.

CONTENT

1. **Introduction to Public Financial Management**
    - 1.1 Nature and scope of public finance
    - 1.2 Sources of public finance
    - 1.3 Objectives of the Public Financial Management Act and Financial regulations
    - 1.4 Budget process for national, county and public entities, Development plan preparation, Treasury circulars, Cash flow projections, Budget estimates and revenue raising measures.
    - 1.5 Role of the National Treasury and County Treasuries with respect to the management and control of public finance.

2. **Relationship between National and County Governments on budget and economic matters**
    - 2.1 The process of sharing revenue between national and county governments and among the county governments: Factors considered and formula used
    - 2.2 Division of revenue bill and county allocation of revenue bill
    - 2.3 The role of the Commission on Revenue on Allocation (COR)
    - 2.4 The role of the Council of Governors in county financial management
    - 2.5 National Government public funds: The Consolidated Fund; The Contingency fund; The Equalisation fund and Other National Government public funds
    - 2.6 County Government public funds; County Revenue Fund; County Government Emergency Funds and other county public funds
    - 2.7 County government revenue sources.

3. **Oversight Function in Public Finance Management**
    - 3.1 The role of National Assembly: Responsibilities of the National Assembly budget committee in public finance matters
    - 3.2 The role of Senate: Responsibilities of the Senate budget committee in public finance matters
    - 3.3 The role of Parliamentary Budget Office
    - 3.4 The role of Auditor General
    - 3.5 The role of Internal Audit
    - 3.6 Role of Controller of Budget
    - 3.7 The role of public sector accounting standards board

4. **Procurement in public entities**
   - 4.1 Introduction to Public Procurement and Disposal (PPD) Act
   - 4.2 Procurement guidelines as envisaged by PPD Act
   - 4.3 Procurement process by National, County and other public entities: The role of the National Treasury, Public Procurement Regulatory Authority and Public Procurement Administrative Review Board
   - 4.4 Tendering process and selection of suppliers in public sector
   - 4.5 Concept of e-procurement

5. **Public Private Partnerships Arrangements**
   - 5.1 Rationale and justification for Public Private Partnerships
   - 5.2 Establishment of Public Private Partnerships (PPP) Unit in the National Treasury
   - 5.3 Contract/project agreements, guidelines and standards
   - 5.4 Composition and role of PPP petition committee
   - 5.5 Establishment and role of PPP project facilitation fund

6. **Public Debt Management**
   - 6.1 Establishment of debt management office
   - 6.2 Objectives of debt management in public sector
   - 6.3 Sources of public debt in Kenya
   - 6.4 Management of debts by county governments and other public entities
   - 6.5 Role of the Cabinet Secretary of the National Treasury in public debt management
   - 6.6 Measures that can be adopted to reduce public debt

7. **Introduction to Taxation**
   - 7.1 Definition of Tax, Taxation and Types of taxes in Kenya
   - 7.2 History of taxation
   - 7.3 Classification of taxes; Tax shifting and Factors that determine tax shifting
   - 7.4 Principles of an optimal tax system
   - 7.5 Types of tax systems; Single versus multiple tax systems
   - 7.6 Purposes of taxation/Why the government levy taxes
   - 7.7 Tax evasion and tax avoidance
   - 7.8 Taxable capacity
   - 7.9 Budgetary and Fiscal policies
   - 7.10 The Revenue Authority; Structure, Functions, Large and Medium Taxpayers Office mandate

8. **Taxation of Income**
   - 8.1 Introduction
     - 8.1.1 Basis of charging tax in Kenya: Section 3 of the Income Tax Act
     - 8.1.2 Concept of residency and Criteria of taxing income in Kenya.
     - 8.1.3 Taxable and non-taxable persons
     - 8.1.4 Specified Sources of income
     - 8.1.5 Incomes exempted from taxation
   - 8.2 Taxation of Employment income
     - 8.2.1 Taxable cash and non-cash benefits/rewards received from employment
     - 8.2.2 Non-taxable cash and non-cash benefits/rewards received from employment
     - 8.2.3 Allowable deductions against employment income
     - 8.2.4 Tax credits (withholding tax, personal and insurance relief, others)

8.2.5 Taxation of lumpsum payment for services rendered and services that would have been rendered; Gratuity, terminal dues, compensation for loss of office.
8.2.6 Operations of PAYE systems: Preparation of PAYE returns, categories of employees, multiple sources of income, irregularly paid employees, casual workers, PAYE audit and triggers
8.2.7 Other Statutory deductions (NSSF and NHIF)
8.2.8 All these should be illustrated with relevant computations including PAYE computations

8.3 **Taxation of Business Income**
8.3.1 Introduction to taxation of business income including criteria of taxing business income
8.3.2 Income Tax Act provisions on computation of business income
8.3.3 Allowable and disallowable business expenses and taxable business income
8.3.4 Taxable business income and tax payable computations in respect of:
8.3.4.1 Sole proprietorship
8.3.4.2 Partnerships (excluding admissions, retirement of partners and conversions)
8.3.4.3 Incorporated entities (excluding specialised institutions)
8.4 Taxation of rental income and royalties
8.5 Taxation of Farming income
8.6 Taxation of Investment income (Dividend and interest income)
8.7 Turnover tax and Minimal tax
8.8 Taxation of Capital gains
8.9 Taxation of Digital income; digital service tax and Digital service tax agents
8.10 Withholding Tax
8.10.1 Income subject to withholding tax (Dividends, Interest, management and profession fees, royalties)
8.10.2 Withholding Tax Rates on Residents and non-residents
8.10.3 Introduction to Double Tax Agreements and the impact on withholding tax payments

All the above should be illustrated with relevant basic computations.

9. **Investment Allowances/deductions**
9.1 Introduction to capital allowances and Rationale for capital deductions
9.2 Types of capital allowances; Theory and computations
9.3 Investment deductions; Ordinary manufacturers
9.4 Industrial building deductions
9.5 Wear and tear allowances
9.6 Farm works deductions
9.7 Shipping investment deduction
9.8 Other deductions

All the above should be illustrated with relevant computations

10. **Administration of Income Tax and Tax Procedures**
10.1 Registration and deregistration of tax payers
10.2 Personal identification number: Issue, uses, cancellation of a PIN
10.3 Taxpayer's tax representative: Appointment, liabilities and obligations
10.4 Tax Returns and Assessments: Self-assessment, Default assessment, Advance assessment, Amendment of assessments

10.5 Collection, recovery and refund of taxes
10.6 Tax Decisions, Objections, Appeals and Relief of mistakes
10.7 Voluntary Tax Disclosure Program
10.8 Administrative penalties and offences
10.9 Application of ICT in taxation: Practical use of iTax to file the returns

11. **Administration of Value Added Tax (VAT)**
11.1 Introduction to VAT, Basis of charging VAT and VAT rates
11.2 Rights and obligations of VAT taxable person
11.3 Registration and deregistration of businesses for VAT
11.4 Key terms in VAT: Input tax, Output tax, Supply, Time of supply/Tax point and Taxable value of a supply/Value for VAT supported with relevant calculations
11.5 Deduction of input tax
11.6 Accounting for VAT and VAT records
11.7 Taxable and non-taxable supplies: Zero rated supplies, Exempt goods and exempt services including restriction of input tax claim.
11.8 Privileged persons and institutions
11.9 Withholding VAT and withholding VAT agents
11.10 VAT returns and assessments including VAT Auto Assessments
11.11 Remission, rebate and refund of VAT
11.12 Changes to be notified to the commissioner
11.13 Offences, fines, penalties and interest

12. **Customs Taxes and Excise Taxes**
12.1 Purpose of customs and excise duties
12.2 Imposition of customs duty
12.3 Customs procedure
12.4 Bonded warehouse and bond securities
12.5 Goods subject to customs control
12.6 Refund of duty
12.7 The Simba System/Integrated Customs Management System
12.8 Imposition of excise duty
12.9 Excisable goods under excise control
12.10 Application for excise duty (licensing), issue of licences, Suspension and Cancellation of Licences
12.11 Excise stamps and Excisable goods management system
12.12 Refund of excise duty
12.13 Excise duty returns and payments
12.14 Offences and penalties

13. **Miscellaneous fees and levies**
13.1 Export levy
13.2 Import Declaration fee (IDF)
13.3 Railway Development Levy (RDL)
13.4 Stamp duty
13.5 Catering levy
13.6 Motor vehicle advance tax
13.7 Betting, Lotteries & Gaming taxes

Sample reading and reference material

1. East African Community Customs Management Act, 2004 (Revised Edition 2017)
2. Excise Duty Act No. 23 Of 2015 Revised Edition 2017 [2015]
3. Income Tax Act Revised Edition 2018
4. The Public Finance Management Act, 2012
5. Tax Procedures Act of 2015,Revised Edition 2018
6. Value Added Tax Act of 2013 Revised Edition 2018
7. Kasneb e-learning resources (link on kasneb website)
8. Kasneb approved study packs
9. Sample text books on taxation from local authors

ADVANCED LEVEL

PAPER NO.12 LEADERSHIP AND MANAGEMENT

UNIT DESCRIPTION

This paper is intended to equip the candidate with knowledge, skills and attitudes that will enable him/her to apply and demonstrate leadership and management skills to grow an enterprise under various circumstances and environments including under uncertainties.

LEARNING OUTCOMES

A candidate who passes this paper should be able to:

- Demonstrate an understanding of leadership techniques and management principles
- Apply knowledge of leadership and management theories in organizations
- Effectively undertake management functions
- Make rational management decisions in an organisational context
- Embrace and manage strategic change.

CONTENT

1. **Introduction to management**
    - 1.1 Nature of management
    - 1.2 Importance of management
    - 1.3 Levels of management
    - 1.4 Multi-disciplinary nature of management
    - 1.5 Roles of management as advocated by Henry Mintzberg
    - 1.6 The changing roles of management and managers
    - 1.7 Qualities of an effective manager
    - 1.8 Management and administration

2. **Evolution and development of management thought**
    - 2.1 **Classical approaches to management**
        - 2.1.1 Taylor's view point
        - 2.1.2 Fayol's administrative theory
        - 2.1.3 Max Weber's bureaucratic theory
    - 2.2 **Behavioural management approach**
        - 2.2.1 Elton Mayo-Human relation theory
        - 2.2.2 Abraham Maslow's theory
        - 2.2.3 McGregor's X and Y theories
        - 2.2.4 Mary Parker Follett's Management theory
    - 2.3 **Modern management theories**
        - 2.3.1 Quantitative thinking
        - 2.3.2 Systems thinking
        - 2.3.3 Contingency thinking

3. **Leading as a function of management**
    - 3.1 Differences between management and leadership
    - 3.2 Attributes and skills of a good leader
    - 3.3 Delegation, responsibility and accountability

3.4 Power, authority and accountability

4. **Other Functions of management**

4.1 **Planning function**:

4.1.1 Introduction to planning
4.1.2 Importance of planning
4.1.3 Planning process
4.1.4 Types of plans
4.1.5 Approaches to planning

4.2 **Organising function**

4.2.1 Meaning and importance of organising
4.2.2 Factors affecting the organising function
4.2.3 Process of organising
4.2.4 Principles of organising
4.2.5 Organisational structures

4.3 **Staffing function**

4.3.1 Meaning and importance of staffing
4.3.2 Staffing process
4.3.3 Factors that affect the staffing function
4.3.4 Components of the staffing function

4.4 **Controlling function**

4.4.1 Meaning and importance of control
4.4.2 Steps in the control process
4.4.3 Types of control
4.4.4 Controlling for organisational and employee performance
4.4.5 Tools for measuring performance
4.4.6 Essentials of an effective control system

5**. Environmental Analysis**

5.1 Micro-environment
5.2 Macro-environment
5.3 Internal environment
5.4 External environment
5.5 Tools of environmental analysis

6**. Leadership approaches and strategy**

6.1 Leadership traits
6.2 Leadership styles
6.3 Leadership skills
6.4 Formulation of an organisation’s strategic direction
6.5 Differences between transactional leadership and transformational leadership
6.6 Conflict resolution mechanisms
6.7 Ethics in leadership

7. **Decision making**
   7.1 Importance of decision making
   7.2 Decision making models/approaches
   7.3 Types of decisions
   7.4 Decision making process
   7.5 Problem solving skills
   7.6 Decision making under different conditions
   7.7 Challenges in decision making
   7.8 Effective decision making

8. **Enterprise management**
   8.1 Meaning and concept of entrepreneurship
   8.2 Intrapreneurship
   8.3 Entrepreneurial development
   8.4 Enhancing creativity and innovation in organisations
   8.5 Methods of generating ideas
   8.6 Introduction to business plan
   8.7 Protection of intellectual properties

9. **Project management**
   9.1 Project management concepts
   9.2 Characteristics of a project
   9.3 Importance of projects
   9.4 Features of projects and baseline surveys
   9.5 Illustration of the Project life cycle
   9.6 Project planning and organising
   9.7 Project resources and costing
   9.8 Project completion and evaluation

10. **Marketing management**
   10.1 Meaning and importance of marketing
   10.2 Marketing management orientation/philosophies
   10.3 Marketing mix
   10.4 Development of marketing information
   10.5 Marketing strategies
   10.6 Marketing research and intelligence
   10.7 International marketing and e-commerce

11. **Leadership and Strategic Change**
   11.1 Meaning of change
   11.2 Theories of change
   11.3 Types of organisational change
   11.4 Managing resistance to change
   11.5 Diagnosing the change context
   11.6 Levers for strategic change

11.7 Methods of introducing strategic change
11.8 Problems of formal change programmes
11.9 Leading Change

12. **Case Studies in Leadership and Management**

Sample reading and reference material

1. Cole, G. A., & Kelly, P. (2020). Management Theory & Practice (9th edition). Cengage Learning.
2. Robbins, S. P., & Coulter, M. A. (2021). Management (15th edition). New Delhi: Pearson India.
3. Robbins, S. P., Coulter, M., & Decenzo, D. A. (2017). Fundamentals of Management: Essential Concepts and Applications (10th edition). Boston: Pearson.
4. Kasneb e-learning resources (link on the Kasneb website).
5. Kasneb approved study packs.

PAPER NO.13 FIXED INCOME INVESTMENTS ANALYSIS

UNIT DESCRIPTION
This paper is intended to equip the candidate with knowledge, skills and attitudes that will enable him/her to value and analyse fixed income securities and assess associated risk.

LEARNING OUTCOMES
A candidate who passes this paper should be able to:
- Identify various types of fixed income instruments
- Assess various types of risks associated with fixed income instruments
- Analyse interest rate volatility using the term structure of interest rate approach
- Model interest rate yield curves
- Value and analyse fixed income instruments
- Value bonds using interest rate models

CONTENT
1. **Overview of fixed income securities**
    - 1.1 Basic features of fixed income securities
    - 1.2 Types of fixed income securities
    - 1.3 Bond indenture; affirmative and negative covenants; effect of legal, regulatory and tax considerations on the issuance and trading of fixed income securities; bonds with embedded options
    - 1.4 Structure of cash flows of fixed income securities; contingency provisions affecting the timing and/or nature of cash flows of fixed income securities

2. **Markets of fixed income securities: Issuance, trading and funding**
    - 2.1 Classifications of global fixed income markets
    - 2.2 Issue process; market participants; issuers; intermediaries; investors borrowing parties; underwriting; fees and expenses
    - 2.3 Fixed income trading platforms; OTC; multi user electronic trading platforms; market and regulatory factors
    - 2.4 Interbank offered rates as reference rates in floating-rate debt; mechanisms available for issuing bonds in primary markets; secondary markets for bonds; securities issued by sovereign governments, non-sovereign governments, government agencies and supranational entities; debt securities issued by corporations; Credit risk and credit-related risks affecting corporate bonds; seniority rankings of corporate bonds; potential violation of the priority of claims in a bankruptcy proceeding; corporate issuer credit ratings; issue credit ratings; rating agency practice of “notching”; risks in relying on ratings from credit rating agencies; components of traditional credit analysis; short-term funding alternatives available to banks; repurchase agreements (repos)

    - 2.5 **Fixed income risk and return**
        - 2.5.1 Risks associated with fixed income securities (Interest rate risk, Reinvestment risk, Call risk, inflation risk, liquidity risk, Currency risk, Volatility risk and other risks
        - 2.5.2 Return; potential sources of bond’s total return; coupon interest; capital gain; reinvestment income; assumptions of total return; hold to maturity; reinvestment; horizon analysis; factors affecting treasury security total returns; shifts in interest rate level; slope of yield curve; curvature and butterfly shifts; computing the total return; Option Adjusted Spread(OAS)

total return; total return to maturity; Return from investing in a fixed-rate bond; total return for mortgage-backed security; portfolio return

2.5.3 Risk/return characteristics

2.5.4 Bond yield measures: current yield; yield to maturity; yield to call; other yields; yield curves and yield spread analysis; the full valuation approach; price volatility characteristics of bonds

3. **Fundamentals of fixed income valuation**
   - 3.1 Determination of price of the bond given a market discount rate
   - 3.2 Relationships among a bond's price, coupon rate, maturity and market discount rate (yield-to-maturity)
   - 3.3 Bonds price quotation: spot rates; flat price (clean price), accrued interest and the full price of a bond (dirty price)
   - 3.4 Matrix pricing of a bond
   - 3.5 Yield measures for fixed-rate bonds, floating-rate notes and money market instruments
   - 3.6 Bond refinancing/refunding

4. **Interest rate risk**
   - 4.1 Measures of interest rate risk; Bond duration measures: Macaulay duration, modified duration and effective durations, portfolio duration; money duration of a bond and price value of a basis point (PVBP)
   - 4.2 Effective duration as a measure of interest rate risk for bonds with embedded options
   - 4.3 Key rate duration as a measure of sensitivity of bonds to changes in the shape of the benchmark yield curve
   - 4.4 Effect of a bond's maturity, coupon, embedded options and yield level to its interest rate risk
   - 4.5 Bond convexity: approximate convexity; effective convexity; determination of percentage price change of a bond for a specified change in yield, given the bond's approximate duration and convexity
   - 4.6 Effect of term structure of yield volatility on the interest rate risk of a bond; relationships among a bond's holding period return, its duration and the investment horizon; importance of yield volatility
   - 4.7 Effect of changes in credit spread and liquidity on yield-to-maturity of a bond and how duration and convexity can be used to estimate the price effect of the changes
   - 4.8 Inflation and default risk

5. **The arbitrage-free valuation framework**
   - 5.1 Overview of arbitrage-free valuation of a fixed-income instrument
   - 5.2 Computation of the arbitrage-free value of an option-free, fixed-rate coupon bond
   - 5.3 Binomial interest rate tree framework: the backward induction valuation methodology and computation of the value of a fixed-income instrument given its cash flow at each node; process of calibrating a binomial interest rate tree to match a specific term structure
   - 5.4 Pricing using the zero-coupon yield curve and pricing using an arbitrage-free binomial lattice; path wise valuation in a binomial interest rate framework and computation of the value of a fixed-income instrument given its cash flows along each path
   - 5.5 Monte Carlo forward-rate simulation and its application

6. **Valuation and analysis of bonds with embedded options**

6.1 Overview of fixed-income securities with embedded options

6.2 Relationships between the values of a callable or putable bond, the underlying option-free (straight) bond and the embedded option; Use of the arbitrage-free framework to value a bond with embedded options

6.3 Effect of interest rate volatility on the value of a callable or putable bond

6.4 Effect of changes in the level and shape of the yield curve on the value of a callable bond

6.5 Determination of the value of a callable or putable bond from an interest rate tree; option-adjusted spreads (OAS); effect of interest rate volatility on option-adjusted spreads

6.6 Effective duration of callable, putable and straight bonds; use of one-sided durations and key rate durations to evaluate the interest rate sensitivity of bonds with embedded options

6.7 Effective convexities of callable, putable and straight bonds

6.8 Determination of the value of a capped or floored floating-rate bond

6.9 Defining features of a convertible bond; components of a convertible bond's value; valuation of convertible bond in an arbitrage-free framework; risk–return characteristics of a convertible bond, straight bond and underlying common stock.

7. **The term structure and interest rate dynamics**

7.1 Determinants of the nominal yield curve; different shapes of a yield curve; normal, flat and inverted yield curves; Yield curve shifts; parallel; non-parallel shift; yield curve twist and curvature change; butterfly shift

7.2 Term structure of interest rate theories: pure expectation theory, liquidity preference theory, market segmentation theory; implications of the yield curve for the yield-curve theories; interpretation of yield curve shape and implied forward rates in the context of the term structure theories.

7.3 Spot rate curves, constructing theoretical spot rate curve for treasury securities using bootstrapping; on-the-run treasury securities; coupon treasury securities; zero coupon treasury securities; treasury strips; yield curve on coupon bonds, par curve and forward curve

7.4 Forward rates; determination of spot rates from forward rates, forward rates from spot rates and the price of a bond using forward rates; yield spread measures

7.5 Relationships among spot rates, forward rates, yield to maturity, expected and realised returns on bonds and the shape of the yield curve

7.6 Forward pricing and forward rate models: determination of forward and spot prices and rates using those models

7.7 Assumptions concerning the evolution of spot rates in relation to forward rates implicit in active bond portfolio management; the strategy of riding the yield curve

7.8 Swap rate curve: its use in valuation by market participants; determination and interpretation of the swap spread for a default-free bond; the Z-spread; treasury and Euro dollar (TED) spread and London interbank offer rate (LIBOR) – OIS spreads

7.9 Review of traditional theories of the term structure of interest rates; the implications of each theory to forward rates and the shape of the yield curve

7.10 Modern term structure models and their use; measuring the bond's exposure to each of the factors driving the yield curve and how these exposures can be used to manage yield curve risks; computation and interpretation of yield risk using key rate duration; maturity structure of yield volatilities and their effect on price volatility

Sample reading and reference material

1. Fabozzi, F., Mann, S., & Fabozzi, F. (2021). The Handbook of Fixed Income Securities (9th edition). New York: McGraw-Hill.
2. Tuckman, B., & Serrat, A. (2012). Fixed Income Securities: Tools for Today's Markets. New Jersey: John Wiley & Sons.
3. Veronesi, P. (2016). Handbook of Fixed-Income Securities. New Jersey: John Wiley & Sons.
4. Kasneb e-learning resources (link on the Kasneb website).
5. Kasneb approved study packs.

PAPER NO. 14 ALTERNATIVE INVESTMENTS ANALYSIS

UNIT DESCRIPTION
This paper is intended to equip the candidate with the knowledge, skills and attitudes that will enable him/her to value and analyse alternative investments.

LEARNING OUTCOMES
A candidate who passes this paper should be able to:
- Identify the principal classes of alternative investments
- Demonstrate knowledge of the environment and various players in the alternative investment market.
- Apply valuation techniques to price and value alternative investments
- Advise clients on how to incorporate alternative investments to their portfolio according to stated investment objectives and risk tolerance
- Evaluate the importance of alternative investments as asset classes for portfolio management

CONTENT
1. **Introduction to alternative investments**
    - 1.1 Distinction between alternative investments and conventional investments
    - 1.2 Historical evolution of alternative investments
    - 1.3 Features of alternative investments
    - 1.4 Types of alternative investment structures: regulatory, securities, trading, compensation, institutional
    - 1.5 Goals of alternative investing

2. **The environment of alternative investments**
    - 2.1 Participants in the alternative investing environment:
    - 2.2 Buy side participants (plan sponsors; foundations and endowments; private wealth institutions; hedge funds; funds of funds; private equity funds; commodity trading advisors; separately managed accounts) and their roles in the alternative investing environment
    - 2.3 Sell side participants (large dealer banks, brokers) and their roles in the alternative investing environment
    - 2.4 Outside service providers (prime brokers, accountants and auditors, advocates, fund administrators, hedge fund infrastructure, consultants, depositories and custodians, commercial banks) and their roles in the alternative investing environment
    - 2.5 Features of fund structures
    - 2.6 Documents used in establishing and maintaining hedge fund, private equity fund and other private partnerships (private-placement memoranda, partnership agreement, subscription agreement, management company operating agreement)
    - 2.7 Moral hazard and adverse selection in alternative investments
    - 2.8 Components of investments objectives, fund size, and fund terms within a limited partnership agreement
    - 2.9 Regulatory issues related to alternative investments: Global regulations (markets in financial instruments directive (MiFID), MiFID II, alternative investment fund managers directive (AIFMD) and their impact on asset allocation
    - 2.10 Role of financial markets in alternative investments: primary, secondary, third and fourth markets

2.11 Effect of taxation on alternative investments: income taxes (taxes on capital gains, dividends, interest), non-income tax conventions (real estate taxes, VAT), effect of variation in income tax conventions around the world on investments and investment decisions

3. **Real assets investment**

3.1 Characteristics of real assets

3.2 Land as an alternative asset; land banking, types of land lots (paper lots, blue top lots, and finished lots); investment in undeveloped land as a call option; binomial option pricing technique for valuing land as a call option risks and returns of investing in land; expected return of land investments

3.3 Timber and timberland as alternative assets; characteristics of timber and timberland, risks and returns of timberland investments; methods of gaining exposure to timberland, benefits and disadvantages of timber investment

3.4 Farmland as an alternative asset; characteristics of farmland investments, reasons for preserving farmland, value of farmland based on annual operating income and the cap rate, benefits and disadvantages of farmland investment

3.5 Infrastructure as an alternative asset; elements that help identify investable infrastructure, role of public-private partnerships in infrastructure investing, risks and government regulation of infrastructure investing, stages of infrastructure investing, infrastructure investment vehicles

3.6 Intellectual property; characteristics of intellectual property, models of intellectual property

3.7 Effect of smoothing on the valuation and volatility of real assets investments: smoothing of prices and returns, smoothed returns with market returns

3.8 Real estate assets and debt; categories of real estate, equity versus debt, advantages, disadvantages, and styles of real estate investments as well as advantages and disadvantages of investing in real estate, challenges of international real estate investments, residential vs. commercial real estate, private vs. public real estate, real estate categorization based on market size, styles of real estate investing, attributes of differentiating real estate styles, purposes of real estate style analysis and real estate style boxes, analysis of default risk of commercial mortgages, financial ratios employed in the analysis of commercial mortgage. Role of real estate in an investment portfolio, types of real estate investment trusts (REITs), advantages and disadvantages of REITs as an alternative investment.

3.9 Residential Mortgages-variable rate, gradual payment, option adjusted rate and balloon payments

3.10 Real estate equity investments; real estate development in the context of alternative investments, development phase of real estate, importance of commercial real estate equity exposures,

3.11 Commercial real estate valuation : comparable sale prices approach, profit and cost approaches to real estate valuation, cap rates and perpetuity valuation approach to a real estate project, income approach as a major real estate valuation approach and transaction-based methods to real estate valuation, advantages and disadvantages of appraisal-based models over transaction-based models, discounted cash flow approach (income approach) to the calculation of net operating income, real estate project's discount rate and the risk premium approach, role of taxes in estimating discount rates and the cash flows of a real estate project, appraised value of an office building using the income approach, private equity real estate funds, commingled real estate funds, syndications and joint ventures, limited partnerships, and concepts of gearing and loan-to-value (LTV) ratios, open-end real estate mutual funds, exchange-traded funds and closed-end real estate mutual funds, equity real estate investment trusts, knowledge of equity REIT returns, private and public REITs and illiquidity premiums in public REITs , REIT valuation (net asset value per share (NAVPS), funds from operations (FFO) and adjusted funds from operations (AFFO)) , comparison of net asset value, relative value (price-to-FFO and price-to-AFFO) and discounted cash flow approaches

4. **Hedge funds**

4.1 Features of hedge funds; three primary elements of hedge funds; reasons for hedge fund industry growth and concentration

4.2 Classification of hedge funds; single-manager hedge funds, funds of funds and multi-strategy funds

4.3 Hedge fund fees: the approach for determining total annual hedge fund fees; the effects of high-water marks (HWM) and hurdle rates on hedge fund fees over time; effects of incentive fees on hedge fund manager behaviour; annuity view of hedge funds fees; option view of incentive fees and its implications on manager behaviour

4.4 Hedge fund strategies: types of hedge fund strategies (Equity based strategies, arbitrage-based strategies, opportunistic strategies, multiple strategies)

4.5 Reasons for incorporating hedge funds into an investment program: return enhancement and diversification potential of hedge funds as additions to portfolios of traditional assets; characteristics and potential benefits of opportunistic hedge fund investing

4.6 Hedge fund indices: asset-weighted hedge fund indices and equal-weighted hedge fund indices; concepts of representativeness and data biases (survivorship, selection, instant history, liquidation) and their effects on hedge fund returns reported by databases

4.7 Determinants of investability of hedge fund indices

4.8 Funds of hedge funds; multi-strategy funds; process of investing in funds of hedge funds, building a portfolio of single hedge funds, multialternatives and other hedge fund liquid alternatives

5. **Private equity**

5.1 Background of private equity

5.2 Structure of private equity funds and investments

5.3 Roles of various entities involved in private equity investments

5.4 Major forms of private equity investments that involve direct ownership of equity: leveraged buyouts(LBOs), management buyouts(MBOs), venture capital, merchant banking and their characteristics

5.5 Major forms of private equity that involve direct ownership of debt securities: mezzanine debt, distressed debt securities, debt covenants, leverage loan securities and factors contributing to their growth

5.6 Trends and innovations in private equity markets: secondary markets in the context of private equity; private investment in public equity (PIPE) transactions; hedge fund participation in private equity, contrast between private equity funds and hedge funds

5.7 Venture capital: role of venture capital and leverage buyouts as sources of funding for corporations through their life cycle, role of business plans and exit plans in venture capital investment, structure of venture capital funds, stages of the life cycle of venture capital funds and portfolio companies, compound option embedded in most venture capital investments, the concept of the J-curve in the context of a start-up company; risk and return characteristics of venture capital investments, sources of return (risk premiums) to venture capital investments equities

5.8 Growth equity: growth equity investments and protective provisions as a key deal characteristic in growth equity investment, characteristics of growth equity investment, valuation of growth equity based on revenue

5.9 Leveraged buyout (LBO) transactions: structure of LBO funds and the role of various entities involved in LBO transactions; fees associated with investments in LBO funds; effects of leverage on the payoffs and returns of LBO transactions; exit strategies of LBOs; risk and return characteristics of LBOs

5.10 Private investments in public equity (PIPEs); characteristics and types of securities issues through PIPEs, motivations of buyers and sellers in PIPEs.

5.11 Private credit and distressed debt; types of fund private credit vehicles; private credit and distressed debt investments, interval funds, drawdown funds, Funds with a loan-to-own objective, fulcrum securities and reorganization; credit risk analysis and the bankruptcy process, basic credit ratings, yields, and financial ratios, interpret credit spreads and credit risk, credit risk and its relationship to risk of default, covenants on debt, ways that covenants can control risk, distressed debt and the bankruptcy process, leveraged loans; basics of leveraged loans, growth in leveraged loans, liquidity and demand for leveraged loans, mezzanine debt, structures of mezzanine debt and lowering the weighted average cost of capital, mezzanine debt financing vs. other forms of financing, major types of investors in mezzanine debt, characteristics of mezzanine debt.

5.12 Corporate governance structures in private funds

6. **Structured Products**

6.1 **Introduction**

6.1.1 Overview of structuring; major types/forms of structuring, key elements of a structured products, reasons for structuring, advantages and disadvantages of structuring, structuring with tranches and how structured products are created, the primary economic role of structuring, economic role of structured products

6.1.2 Motivations of structured products; investor related and tax-related motivations for investors

6.1.3 Structured investment products in the structured products market; capital protected, yield enhancement and leverage structured products

6.2 **Asset-backed securities**

6.2.1 Basic structural features of, and parties to a structuring transaction; the roles they play, and the legal structures involved

6.2.2 Types of tranching; prepayment tranching and credit tranching

6.2.3 Payment structure and collateral structure of structuring backed by amortising assets and non-amortising assets

6.2.4 Types of external and internal credit enhancements; cash flow and prepayment characteristics for securities backed by home equity loans, manufactured housing loans, automobile loans, student loans and credit card receivables; financial ratios as used in analysis of commercial mortgages (Loan-to-Value, interest coverage ratio, and debt service coverage ratio); collateralised debt obligations (CDOs): cash and synthetic CDOs; primary motivations for creating a collateralised debt obligation (arbitrage and balance sheet transactions)

6.2.5 Credit derivative markets: how a bank can use credit derivatives to transfer credit risk, classification of credit derivatives (single name versus multi-name, funded versus unfunded, sovereign versus non sovereign). four stages of credit derivative activity
6.2.6 Credit default swaps: mechanics of credit default swaps, credit options and credit-linked notes, risks of credit derivatives
6.2.7 Collateralised debt obligations (CDOs): general structure and life cycle of a CDO, balance sheet CDOs and arbitrage CDOs, cash-funded CDOs and synthetic CDOs, cash flow and market value CDOs, credit risk and enhancement of CDOs, new developments in CDOs (distressed debt CDOs, hedge fund CDOs, single-tranche CDOs).

6.3 **Mortgage-backed securities**
6.3.1 Collateralised mortgage obligations (CMOs): characteristics, sequential-pay CMOs, other types of CMO structures and tranches (Planned Amortisation Class, Targeted Amortisation Class, Principal-only CMO and Floating-rate)
6.3.2 Mortgage loans: cash flow characteristics of a fixed-rate mortgage, level payment and fully amortised mortgage
6.3.3 Mortgage pass-through securities: investment characteristics, payment characteristics and risks; repayment amount on a mortgage pass-through security for a month, given the single monthly mortality rate; conditional prepayment rate (CPR); Public Securities Association (PSA) prepayment benchmark
6.3.4 Relevance of average life of a mortgage-backed with respect to the security's maturity; factors that affect prepayments and the types of prepayment risks
6.3.5 Collateralised mortgage obligation (CMO): creation of a collateralised mortgage obligation and its use in matching of assets and liabilities for institutional investors
6.3.6 Mortgage tranches in a CMO: Sequential pay tranche; the accrual tranche, the planned amortisation class tranche and the support tranche; risk characteristics and relative performance of each type of CMO tranche, given changes in the interest rate environment; investment characteristics of stripped mortgage-backed securities; agency and non-agency mortgage-backed securities; credit risk analysis of commercial and residential non-agency mortgage-backed securities; basic structure of a commercial mortgage-backed security (CMBS) ;ways in which a CMBS investor may realise call protection at the loan level and by means of the CMBS structure

7. **Valuing mortgage-backed and asset-backed securities**
7.1 Computation, use and limitations of the cash flow yield, nominal spread and zero-volatility spread for a mortgage-backed security and an asset-backed security
7.2 Monte Carlo simulation model for valuing a mortgage-backed security
7.3 Path dependency in pass-through securities and the implications for valuation models
7.4 Calculation of option-adjusted spread using the Monte Carlo simulation model and its interpretation
7.5 Evaluation of a mortgage-backed security using option-adjusted spread analysis
7.6 Reasons for having different effective durations reported by various dealers and vendors; interest rate risk of a security, given the security's effective duration and effective convexity; cash flow, coupon curve and empirical measures of duration and limitations of each in relation to mortgage-backed securities Use of nominal spread, zero-volatility spread, or option-adjusted spread in evaluating a specific fixed income security

8. **Commodities**

- 8.1 Types of market participants in commodity futures markets, ways of participating in commodity markets
- 8.2 Advantages and disadvantages of direct investment in physical commodities, Hotelling's theory, Julian Simon's argument related to direct commodity returns
- 8.3 Overview of forward and futures contracts; marking-to-market of futures positions, initial margin to futures positions, maintenance margins to futures positions
- 8.4 Return characteristics of commodity investments
- 8.5 Roll process of futures contracts: process of creating and maintaining long-term futures exposures through short-term futures positions; effects of rollover decisions on the returns of long-term futures exposures
- 8.6 Term structure of forward prices and the pricing models of futures and forward prices: arbitrage-free pricing models and its application on pricing physical assets, convenience yield
- 8.7 The concepts of backwardation, normal backwardation, contango, and normal contango; relationships between forward prices and spot prices under normal backwardation and normal contango; expected returns to spot positions and forward positions (long and short) under normal backwardation and normal contango
- 8.8 Potential diversification benefits offered by commodities; commodities in the context of equilibrium diversification; commodities as a diversifier of inflation risk; commodities as potential return enhancers
- 8.9 Insurance perspective, the hedging pressure hypothesis and the theory of storage and their implications for futures prices and expected future spot prices
- 8.10 Investing in commodities without futures (through related equity instruments, exchange-traded funds (ETFs), commodity linked notes)
- 8.11 Commodity indices; the process of construction of commodity futures indices, characteristics of commodity indices, production-weighted long only commodity indexes, market liquidity-weighted long only commodity indexes
- 8.12 Commodity risk attributes; characteristics of commodities with respect to event risks, commodities as a defensive investment, institutional investing demand and its effect on commodity prices

9. **Crowd funding**

- 9.1 Introduction to crowd funding and prediction markets
- 9.2 Structure, benefits and weakness
- 9.3 Reward crowdfunding
- 9.4 Equity crowdfunding
- 9.5 Peer 2 Peer lending

Sample reading and reference material

1. Jobman, D. (2002). The Handbook of Alternative Investments. New York: Wiley.
2. Baker, K.H. Alternative Investments: Instruments, Performance, Benchmarks and Strategies. Revised Edition. New Jersey: Wileys.
3. Chorafas, D. N. (2003). Alternative Investments and the Mismanagement of Risk. New York: Palgrave Macmillan.
4. Chambers, D. R., Black, K. H., & Lacey, N. J. (2018). Alternative Investments: A Primer for Investment Professionals. Charlottesville: CFA Institute Research Foundation.
5. Kasneb e-learning resources (link on the Kasneb website).
6. Kasneb approved study packs.

PAPER NO.15 ADVANCED PORTFOLIO MANAGEMENT

UNIT DESCRIPTION
This paper is intended to equip the candidate with the knowledge, skills and attitudes that will enable him/her to apply advanced financial techniques and methods in portfolio management.

LEARNING OUTCOMES
A candidate who passes this paper should be able to:
- Develop investment policy statement for individual and institutional investors
- Construct a portfolio using different asset classes
- Analyse different strategies used to manage a portfolio of different asset classes
- Apply trade execution decisions and techniques in portfolio management
- Undertake portfolio monitoring and rebalancing processes
- Evaluate the performance of a portfolio.

CONTENT
1. **Capital market forecasts**

1.1 **The application framework**

1.1.1 Overview of capital market forecasts and approaches

1.1.2 Role of and a framework for capital market forecasts in the portfolio management process, challenges in developing capital market forecasts exogenous shocks and their effect on economic growth

1.1.3 Application of economic growth trend analysis to the formulation of capital market forecasts, approaches to economic forecasting, effect of business cycles affects short- and long-term forecasts, relationship of inflation to the business cycle and the implications of inflation for cash, bonds, equity, and real estate returns

1.1.4 Monetary and fiscal policy effects on business cycles, macroeconomic, interest rate, and exchange rate linkages between economies

1.2 **Forecasting asset class returns**

1.2.1 Approaches to setting forecasts for fixed-income returns, risks faced by investors in emerging market fixed-income securities and the country risk analysis techniques used to evaluate emerging market economies;
1.2.2 Approaches to setting forecasts for equity investment market returns, risks faced by

1.1.3 Economic and competitive factors effect on forecasts for real estate investment markets and sector returns;

1.1.4 Forecasting exchange rate volatility;

1.1.5 Changes in the component weights of a global investment portfolio based on trends and expected changes in macroeconomic factors

2 Managing individual investor portfolios and institutional investors Portfolio:

2.1 Individual investors:

2.1.1 Overview of investor characteristics: situational profiling (source of wealth, measure of wealth, stage of life); psychological profiling (traditional finance, behavioural finance, personality typing)

2.1.2 Investment policy statement for an individual investor

2.1.3 Strategic asset allocation for an individual investor: Monte Carlo simulation in personal retirement planning

2.2 Institutional investors:

2.2.1 Overview of pension funds: defined-benefit and defined-contribution plans; pension fund risk tolerance; defined benefit and defined contribution investment policy statement; risk management considerations; hybrid pension plans; employee share ownership plans

2.2.2 Other institutional investors: Foundations, endowments, Insurance industry (life and non-life insurance companies), banks, investment intermediaries and other institutional investors; their background and investment setting

3 Asset allocation

3.1 Overview of asset allocation: role of asset allocation in portfolio management, governance structures, articulation of investment objectives, allocation of rights and responsibilities, governance audit, strategic versus tactical asset allocation; importance of asset allocation in portfolio performance; steps involved in establishing an appropriate asset allocation

3.2 Asset allocation and investors and return objectives: dynamic versus static asset allocation; factors affecting asset allocation policy (loss aversion; mental accounting; fear of regret); return and risk objectives in relation to asset allocation, economic balance sheet and asset allocation

3.3 Selection of asset classes: criteria for specifying asset classes; inclusion of international assets (developed and emerging markets)

3.4 Optimisation approaches to asset allocation: mean-variance approach (Its application when adding an asset class in an existing portfolio); resampled efficient frontier; experience-based approaches; asset only, asset/liability management (ALM);); Black – Letterman approach: Monte-Carlo Simulation

3.5 Nondomestic equities and bonds: Their associated risks, costs and opportunities

3.6 Conditional return correlations: their importance when evaluating the diversification effects of nondomestic investments

3.7 Integrating a segmented market with a global market: expected effects on share prices expected returns, and return volatilities

3.8 Formulation and justification of minimum-variance frontier given investment policy statement and capital market expectations.

3.9 Asset allocation with practical constraints

4 Fixed income portfolio management

4.1 Use of liability as a benchmark and use of bond index as a benchmark with respect to investment objectives

4.2 Managing funds against a bond market: classification of strategies (pure bond indexing/full replication approach, enhanced indexing and active investing, full-blown); selection of a benchmark bond index and factors to consider (market value risk, income risk, liability framework risk); use of bond market indices

4.3 Techniques used to align the risk exposures of the portfolio with those of the benchmark bond index: duration matching technique, key rate durations technique

4.4 Assessment of the risk and return characteristics of a proposed trade: total return analysis, scenario analysis

4.5 Bond immunisation strategy: its formulation and evaluation under various interest rate scenarios

4.6 Spread duration and its importance

4.7 Extension of classical immunisation theory: introduction of contingent immunisation

4.8 Risks associated with managing a portfolio against a liability structure: interest rate risk, contingent claim risk, cap risk
4.9 Immunisation strategies for single liability, multiple liabilities and general cash flows: their advantages and disadvantages
4.10 Immunised portfolios: risk immunisation and return maximisation
4.11 Cash flow matching: its use in funding a fixed set of future liabilities; its advantages and disadvantages

5 International and emerging market fixed-income portfolio management strategies

5.1 Effect of leverage on portfolio duration and investment returns
5.2 Use of repurchase agreements (repos) to finance bond purchases: Factors affecting the repo rate
5.3 Measures of fixed income portfolio risk: standard deviation, target semi variance, shortfall risk and value at risk (VaR)
5.4 Use of futures instead of cash market instruments to alter portfolio risk
5.5 Formulation and evaluation of an immunisation strategy based on interest rates
5.6 Use of interest rate swaps and options to alter portfolio cash flows and exposure to interest rate risk; use of credit derivative instruments to address default risk, credit spread risk and downgrade risk in the context of fixed income portfolio
5.7 Potential sources of excess return for an international bond portfolio
5.8 Effect of change in value for a foreign bond when domestic interest rates change, and the bond's contribution to duration in domestic portfolio, given the duration of the foreign bond and the country beta
5.9 Hedging currency risk in international bond markets; break even spread analysis in seeking yield advantages across international bond market; investing in emerging market debt

6 Equity portfolio management

6.1 Role of equity in the overall portfolio
6.2 Equity investment universe; segmentation by size and style, segmentation by geography, segmentation by economic activity.
6.3 Equity investment approaches: passive approach; active approach; semi-active (enhanced-index) approach; their relevance with respect to expected active return and tracking risk
6.4 Weighting schemes used in the construction of major equity market indices and the biases associated with each
6.5 Passive equity investing: alternative methods for establishing passive exposure to an equity market; indexed separate or pooled accounts, index mutual funds, exchange-traded funds, equity index futures and equity total return swaps
6.6 Approaches to constructing an indexed portfolio: full replication, stratified sampling and optimisation
6.7 Active equity investing: equity investment–styles classifications and risks associated with each; techniques for identifying investment styles; equity style indices; equity style box analysis and style drift; long–short and long-only investment strategies; 'equitised' market-neutral and short-extension portfolios; sell disciplines/trading of active investors
6.8 Semi-active equity investing (enhanced-index): derivatives-based and stock-based enhanced indexing strategies
6.9 Managing a portfolio of managers: core-satellite approach to portfolio construction; effect of adding a completeness fund to control overall risk exposures

6.10 Components of total active return (“true” active return and “misfit” active return) and their associated risk measures; alpha and beta separation as an approach to active management;
6.11 Identifying, selecting, and contracting with equity managers
6.12 Structuring equity research and security selection: top-down and bottom-up approaches to equity research

7 Alternative investments portfolio management

7.1 Introduction to alternative investments portfolio management
7.2 Selection of active managers of alternative investment scheme
7.3 Alternative investment benchmarks: construction and interpretation; benchmark bias
7.4 Return enhancement and risk diversification effects of adding an alternative investment to a reference portfolio (for instance a portfolio of bonds and equity only)
7.5 Venture capital: Major issuers and suppliers; purpose of venture capital; buyout funds; use of convertible preferred stock in direct venture capital investment
7.6 Private equity fund: Typical structure and timelines; formulating private equity investment strategy
7.7 Commodity investments: Direct and indirect commodity investment; components of return for commodity futures contracts; role of commodities in a portfolio
7.8 Hedge funds: Typical structure; high water- mark provisions; fund-of-funds; performance and evaluation
7.9 Managed futures: Trading strategies; role in a portfolio
7.10 Distressed securities: Risks associated with investing in distressed securities including event risk, market liquidity risk, ‘J-factor’ risk

8 Currency portfolio management

8.1 Effects of currency movements on portfolio risk and return
8.2 Strategic choices in portfolio management
8.3 Active currency trading strategies based on economic fundamentals, technical analysis, curry trade and volatility trading
8.4 Adjusting the hedge ratio using forward contracts and foreign exchange (FX) swaps
8.5 Trading strategies used to reduce hedging costs and modify the risk return characteristics of a foreign currency portfolio
8.6 Portfolios exposed to multiple foreign currencies: use of cross-hedges ratio, macro-hedges ratio, minimum-variance-hedge ratio
8.7 Challenges for managing emerging market currency exposures

9 Execution of portfolio decisions

9.1 The context of trading: market microstructure: order types and their price and execution uncertainties, their effective spread and their quoted bid ask spread; types of markets and their quality; roles of brokers and dealers
9.2 Costs of trading: transaction costs components (explicit and implicit costs); implementation shortfall and volume weighted average price (VWAP) as measures of transaction costs; use of econometric methods/models in pre-trade analysis to estimate implicit transaction costs
9.3 Major types of traders: their motivation to trade, time versus price preferences and preferred order types; major trading tactics; algorithmic trading strategies and determining factors including order size, average daily trading volume, bid–ask spread and the urgency of the order

9.4 Trade execution decision and tactics: meaning and criteria of best execution; firm's investment and trading procedures, including processes, disclosures and record keeping with respect to best execution
9.5 Role of ethics in trading

10 Portfolio monitoring and rebalancing

10.1 Monitoring: Fiduciary's responsibilities in monitoring an investment portfolio; monitoring of investor circumstances, market/economic conditions and portfolio holdings; revisions to an investor's investment policy statement and strategic asset allocation, given a change in investor circumstances
10.2 Rebalancing: Benefits and costs of rebalancing a portfolio to the investor's strategic asset allocation; calendar rebalancing; percentage-of-portfolio rebalancing; optimal corridor width of an asset class; target portfolio rebalancing versus allowed range portfolio rebalancing; rebalancing strategies (linear, concave, and convex rebalancing strategies); constant mix, buy-and-hold, and constant proportion portfolio insurance (CPPI) rebalancing strategies

11 Evaluating portfolio performance

11.1 Importance of performance evaluation from the perspective of fund sponsors and the perspective of investment managers
11.2 Components of performance evaluation: performance measurement, performance attribution and performance appraisal
11.3 Performance measurement: total, time-weighted, money-weighted rates of return, linked internal rate of return and annualized return
11.4 Benchmarks: concept of a benchmark; properties of a valid benchmark; types; steps involved in constructing a custom security-based benchmark; validity of using manager universes as benchmarks; tests of benchmark quality; hedge funds and hedge fund benchmarks
11.5 Performance attribution: inputs for micro and macro attribution; use of macro and micro performance attribution methodologies to identify the sources of investment performance; use of fundamental factor models in micro performance attribution
11.6 Performance appraisal: risk-adjusted performance measures, including (in their ex post forms) alpha, information ratio, Treynor measure, Sharpe ratio and Modigliani-Modigliani measure (M2); incorporation of portfolio's alpha and beta into the information ratio, Treynor measure, and Sharpe ratio; use of performance quality control charts in performance appraisal
11.7 Practice of performance evaluation: noisiness of performance data; manager continuation policy decisions
11.8 Investment manager selection; framework for investment manager search and selection, type I and type II errors in manager selection, elements of manager search and selection, capture ratios and drawdown in manager evaluation, qualitative elements of manager due diligence, investment personnel investment decision-making process

12 Performance Standards

12.1 Introduction to the Performance Standards; objectives, key characteristics, and scope, benefits to prospective clients and investment managers; fundamentals of compliance with the performance standards, requirements and recommendations of the performance standards with respect to input data, accounting policies related to valuation and performance measurement;

12.2 Role of performance standards with respect to return calculation methodologies, treatment of external cash flows, cash and cash equivalents, and expenses and fees

12.3 Performance standards and composite return calculations, methods for asset-weighting portfolio returns; composite construction and portfolio management, role of investment mandates, objectives, or strategies in the construction of composites, role of performance standards and composite construction; switching portfolios among composites, timing of the inclusion of new portfolios in composites, and the timing of the exclusion of terminated portfolios from composites;

12.4 Performance standards requirements for asset class segments carved out of multi-class portfolios, performance standards and disclosure requirements, including fees, the use of leverage and derivatives, conformity with laws and regulations that conflict with the global standards, and noncompliant performance periods; performance standards presentation and reporting (timeframe of compliant performance periods, annual returns, composite assets, and benchmarks)

12.5 Merits of high/low, range, interquartile range, and equal-weighted or asset-weighted standard deviation as measures of the internal dispersion of portfolio returns within a composite for annual periods

12.6 Investments that are subject to performance standards for real estate and private equity; provisions of performance standards for real estate and private equity;

12.7 Performance standards for Wrap fee/ valuation hierarchy of the performance standards principles

12.8 Advertisements compliance with the performance standard guidelines

Sample study and reference material

1. Brentani, C. (2004). Portfolio Management in Practice. Amsterdam: Butterwort-Heineman.
2. Fischer, D. E., Jordan, R. J., & Pradhan, A. K. (2018). Security Analysis and Portfolio Management (7th edition). New Delhi: Prentice Hall India.
3. Reilly, F. K., & Brown, K. C. (2018). Investment Analysis and Portfolio Management (11th edition). Australia: South-Western Cengage Learning.
4. Leibowitz, M. L., Emrich, S., & Bova, A. (2009). Modern Portfolio Management: Active Long/Short 130/30 Equity Strategies. New Jersey: John Wiley and Sons.
5. Kasneb e-learning resources (link on the Kasneb website)
6. Kasneb approved study packs.

PAPER NO.16 DERIVATIVES ANALYSIS

UNIT DESCRIPTION
This paper is intended to equip the candidate with the knowledge and skills that will enable him/her to analyse and trade in the various types of derivative investments.

LEARNING OUTCOMES
- Demonstrate an understanding of the features, structure and operations of derivatives markets
- Develop a framework for pricing various types of derivatives
- Value derivative instruments using discrete time and continuous time valuation principles.
- Price and hedge interest rate swaps
- Use financial derivative instruments for managing and hedging portfolio risk.
- Apply the framework for risk management so as to enable identification, assessment and control of numerous sources of risk

CONTENT
1. **Introduction to Derivative Markets and Instruments**
    - 1.1 Introduction to Derivatives
    - 1.2 Derivative specific definitions and terminologies
    - 1.3 Types of Derivatives: forward commitments, contingent claims, financial futures, forward contracts, options, swaps, Exotic Derivatives, Forwards: Range forward contract, break forward contract; Options: Asian or average-rate options, Look back options, Barrier options, Rainbow options, Compound options, Chooser options; Swaps: Interest rate swap variants, Currency swap variants, Equity swap variants
    - 1.4 Overview of derivative markets; regulation, players, Trading of financial derivatives, Trading of commodities derivatives, Buying and shorting financial assets
    - 1.5 The Structure and purpose of derivative markets
    - 1.6 Users and uses of financial derivatives
    - 1.7 Criticisms of derivative markets
    - 1.8 Elementary principles of derivative pricing
    - 1.9 Size and Scope of derivatives markets; Global and regional derivatives markets

2. **Forward Markets and Contracts**
    - 2.1 Introduction to forward markets and contracts
    - 2.2 The structure and role of forward markets
    - 2.3 Types of forward contracts: equity forwards contracts; bond and interest rate forward contracts; currency forward contracts; other types of forward contracts
    - 2.4 Mechanics of Forward Markets and Contracts; Delivery and settlement of a forward contract; default risk and forward contracts; termination of a forward contract; cost of carry and transaction costs
    - 2.5 Pricing and valuation of forward contracts: generic pricing and valuation of forward contracts; pricing and valuation of equity forward contracts; pricing and valuation of fixed-income and interest rate forward contracts; pricing and valuation of currency forward contracts
    - 2.6 Credit risk and forward contracts

3. **Futures Markets and Contracts**

3.1 Introduction: Definition of Futures, Brief history of futures markets;

3.2 Types of futures contracts: short-term interest rate futures contracts; intermediate- and long-term interest rate futures contracts; Bond futures contracts; stock index futures contracts; currency futures contracts; Commodities futures contracts – Agricultural, Energy, Precious and Industrial metal futures

3.3 Characteristics of Futures markets: Public standardized transactions; homogenisation and liquidity; the clearinghouse; daily settlement; and performance guarantee; regulation

3.4 Futures trading: the clearinghouse, margins, and price limits; delivery and cash settlement; futures exchanges. Mechanics of trading in futures markets; Long and short positions, Profit and loss at expiration, Closing of positions, Delivery procedures, marking to market of futures contracts, leverage effect, futures quotes

3.5 Pricing and valuation of futures contracts: generic pricing and valuation of a futures contract; pricing interest rate futures, stock index futures, and currency futures; Factors determining contract price - CAPM, hedging pressure theory and cost of carry model; Theoretical and Reality price of futures; Comparing the calculated value of the future vs the market

3.6 Uses of financial and non-financial futures

3.7 The role of futures markets and exchanges

4. **Risk Management applications of Forward and Futures strategies**

4.1 Introduction to risk exposures managed by Forwards and Futures

4.2 Strategies and applications for managing interest rate risk: managing the interest rate risk of a loan using a forward contract; strategies and applications for managing bond portfolio risk

4.3 Strategies and applications for managing equity market risk: measuring and managing the risk of equities; managing the risk of an equity portfolio; creating equity out of cash; creating cash out of equity

4.4 Asset allocation with futures: adjusting the allocation among asset classes; pre-investing in an asset class

4.5 Strategies and applications for managing foreign currency risk: managing the risk of a foreign currency receipt; managing the risk of a foreign currency payment; managing the risk of a foreign-market asset portfolio

4.6 Hedging strategies using futures: hedge ratio, perfect hedge, basis risk and correlation risk, minimum variance hedge ratio and hedging with several futures contracts.

5. **Swap Markets and Contracts**

5.1 Introduction: Definition of Swap contracts, Types of swaps: currency swaps; interest rate swaps; equity swaps; commodity and other types of swaps

5.2 Characteristics of swap contracts

5.3 The structure of global swap markets

5.4 Pricing and valuation of swaps; pricing and valuation of swaps

5.5 Swaptions: basic characteristics of swaptions; uses of swaptions; swaption payoffs; pricing and valuation of swaptions

5.6 Termination of a swap

5.7 Forward swaps

5.8 The role of swap markets

5.9 Uses of Swap Contracts: Credit risks and swaps

6. **Risk management application of swap strategies**

6.1 Introduction to risk exposures managed by Swaps

6.2 Strategies and applications for managing interest rate risk: using interest rate swaps to convert a floating-rate loan to a fixed-rate loan (and vice versa); using swaps to adjust the duration of a fixed-income portfolio; using swaps to create and manage the risk of structured notes, reducing the cost of debt

6.3 Strategies and applications for managing exchange rate risk: converting a loan in one currency into a loan in another currency; converting foreign cash receipts into domestic currency; using currency swaps to create and manage the risk of a dual-currency bond

6.4 Strategies and applications for managing equity market risk; diversifying a concentrated portfolio; achieving international diversification; changing an asset allocation between stocks and bonds; reducing insider exposure

6.5 Strategies and applications using swaptions; using an interest rate swaption in anticipation of a future borrowing; using an interest rate swaption to terminate a swap

7. **Option markets and contracts**

7.1 Introduction: Basic definitions and illustrations of options contracts:

7.2 Types of options: Financial options; options on futures; commodity options; other types of options

7.3 Characteristics of Options Contracts: some examples of options;

7.4 The concept of moneyness of an option

7.5 The structure of global options markets: over-the-counter options markets; exchange-listed option markets

7.6 Options Valuation: Determinants of option price, Option pricing models, sensitivity analysis options premiums

7.7 Principles of option pricing; payoff values: Boundary conditions; the effect of a difference in exercise price; the effect of a difference in time to expiration; put-call parity; American options, lower bounds, and early exercise; the effect of cash flows on the underlying asset; the effect of interest rates and volatility; option price sensitivities

7.6 Discrete-time option pricing: The binomial model; the one-period binomial model; the two-period binomial model; binomial put option pricing; binomial interest rate option pricing; American options: extending the binomial model

7.7 Continuous-time option pricing: The Black-Scholes-Merton model; assumptions of the model; the black-Scholes-Merton formula; inputs to the black-Scholes-Merton model; the effect of cash flows on the underlying; the critical role of volatility

7.8 Pricing options on forward and futures contracts and an application to interest rate option pricing: Put-call parity for options on forwards; early exercise of American options on forward and futures contracts; the black model; application of the black model to interest rate options

7.9 The role of options markets;

7.10 Uses of Options

8. **Risk management applications of option strategies**

8.1 Introduction to risk exposures managed by options

8.2 Option strategies for equity portfolios: standard long and short positions; risk management strategies with options and the underlying; money spreads; combinations of calls and puts

8.3 Interest rate option strategies using: interest rate calls with borrowing; interest rate puts with lending; an interest rate cap with a floating-rate loan; an interest rate floor with a floating-rate loan; an interest rate collar with a floating-rate loan

8.4 Option portfolio risk management strategies: delta hedging an option over time; gamma and the risk of delta; vega and volatility risk; the Greeks.

9. **Contemporary issues and emerging trends in derivatives Contracts**

9.1 Numerical methods of Pricing Options: binomial model, finite difference method and Monte Carlo method.

9.2 Credit derivatives: Credit default swaps (CDS), Credit linked notes (CLN), role of credit derivatives, market participants, Valuation of credit derivatives, credit derivatives institutional framework, spread volatility of credit default swaps

9.3 Financial Engineering; Construction, Uses and Abuses of Derivatives

9.4 Applications of Artificial intelligence and financial technology in derivatives markets

9.5 Benefits and Indispensability of derivatives

9.6 Trends and future of derivatives market globally

9.7 Effects of Crises and Pandemic on global derivatives market

Sample reading and reference material

1. Hull, J. C. (2011). Options, Futures and Other Derivatives (10th edition). New Delhi: Prentice Hall.
2. Gupta, D. S. (2005). Financial Derivatives: Theory, Concepts and Problems. New Delhi: Prentice Hall India.
3. Rendleman, R. (2008). Applied Derivatives: Options, Futures and Swaps. Wiley-Blackwell.
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5. Kasneb e-learning resources (link on the Kasneb website).
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