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CHEMISTRY

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Chemistry is to prepare the candidates for the Board's examination. It is designed to test their achievement of the course objectives, which are to:

- (i) apply the basic principles governing scientific methods in new situations;
- (ii) interpret scientific data;
- (iii) deduce the relationships between chemistry and other sciences;
- (iv) apply the knowledge of chemistry to industry and everyday life.

DETAILED SYLLABUS

TOPICS/CONTENTS/NOTES	OBJECTIVES
1. Separation of mixtures and purification of chemical substances (a) Pure and impure substances (b) Boiling and melting points. (c) Elements, compounds and mixtures (d) Chemical and physical changes. (e) Separation processes: evaporation, simple and fractional distillation, sublimation, filtration, crystallization, paper and column chromatography, simple and fractional crystallization.	Candidates should be able to: i) distinguish between pure and impure substances; ii) use boiling and melting points as criteria for purity of chemical substances; (iii) distinguish between elements, compounds and mixture; (iv) differentiate between chemical and physical changes; (v) identify the properties of the components of a mixture; (vi) specify the principle involved in each separation method.
2. Chemical combination Stoichiometry, laws of definite and multiple proportions, law of conservation of matter, Gay Lussac's law of combining volumes, Avogadro's law; chemical symbols, formulae, equations and their uses, relative atomic mass based on $^{12}\text{C}=12$, the mole concept and Avogadro's number.	Candidates should be able to: (i) perform simple calculations involving formulae, equations/chemical composition and the mole concept; (ii) deduce the chemical laws from given expressions/statements; (iii) interpret data based on these laws; (iv) interpret graphical representations related to these laws.
3. Kinetic theory of matter and Gas Laws (a) An outline of the kinetic theory of matter, melting, vapourization and reverse processes; melting and boiling explained in terms of molecular motion and Brownian movement.	Candidates should be able to: (i) apply the theory to distinguish between solids, liquids and gases; (ii) deduce reasons for change of state; (iii) draw inferences based on molecular motion;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>(b) The laws of Boyle, Charles, Graham and Dalton (law of partial pressure); combined gas law, molar volume and atomicity of gases.</p> <p>4. Atomic structure and bonding</p> <p>(a) (i) The concept of atoms, molecules and ions, the works of Dalton, Millikan, Rutherford, Mosely, Thompson and Bohr. Simple hydrogen spectrum, Ionization of gases illustrating the electron as fundamental particle of matter.</p> <p>(ii) Atomic structure, electron configuration, atomic number, mass number and isotopes; specific examples should be drawn from elements of atomic number 1 to 20. Shapes of s and p orbitals.</p> <p>(b) The periodic table and periodicity of elements, presentation of the periodic table with a view to recognizing families of elements e.g. alkali metals, halogens, the noble gases and transition metals. The variation of the following properties should be noticed: ionization energy, ionic radii, electron affinity and electronegativity.</p> <p>(c) Chemical bonding. Electrovalency and covalency, the electron configuration of elements and their tendency to attain the noble gas structure. Hydrogen bonding and metallic bonding as special types of electrovalency and covalency respectively; coordinate bond as a type of covalent bond as illustrated by complexes like $[\text{Fe}(\text{CN})_6]^{3-}$, $[\text{Fe}(\text{CN})_6]^{4-}$, $[\text{Cu}(\text{NH}_3)_4]^{2+}$ and $[\text{Ag}(\text{NH}_3)_2]^+$; van der Waals' forces should be mentioned as a special type of bonding forces.</p> <p>(d) Shapes of simple molecules: linear (H_2, O_2, Cl_2, HCl and CO_2), non-linear (H_2O) and tetrahedral; (CH_4)</p>	<p>(iv) deduce chemical laws from given expressions/statements;</p> <p>(v) interpret graphical representations related to these laws;</p> <p>(vi) perform simple calculations based on these laws and the relationship between the vapour density of gases and the relative molecular mass.</p> <p>Candidates should be able to:</p> <p>(i) distinguish between atom, molecules and ions;</p> <p>(ii) assess the contributions of these scientists to the development of the atomic structure;</p> <p>(iii) deduce the number of protons, neutrons and electrons from atomic and mass numbers of an atom;</p> <p>(iv) apply the rules guiding the arrangement of electrons in an atom;</p> <p>(v) relate isotopy to mass number;</p> <p>(vi) perform simple calculations on relative atomic mass</p> <p>(vii) determine the number of electrons in s and p atomic orbitals.</p> <p>(viii) relate atomic number to the position of an element on the periodic table;</p> <p>(ix) relate properties of groups of elements on the periodic table;</p> <p>(x) identify reasons for variation in properties across the period.</p> <p>(xi) differentiate between the different types of bonding.</p> <p>(xii) deduce bond types based on electron configurations;</p> <p>(xiii) relate the nature of bonding to properties of compounds;</p> <p>(xiv) apply it in everyday chemistry;</p> <p>(xv) differentiate between the various shapes of molecules</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>(b) Nuclear Chemistry:</p> <p>(i) Radioactivity (elementary treatment only)</p> <p>(ii) Nuclear reactions. Simple equations, uses and applications of natural and artificial radioactivity.</p> <p>5. Air</p> <p>The usual gaseous constituents – nitrogen, oxygen, water vapour, carbon (IV) oxide and the noble gases (argon and neon), proportion of oxygen in the air e.g. by burning phosphorus or by using alkaline pyrogallol, air as a mixture and some uses of the noble gas.</p> <p>6. Water</p> <p>Composition by volume: Water as a solvent, atmospheric gases dissolved in water and their biological significance. Water as a product of the combustion of hydrogen. Hard and soft water: Temporary and permanent hardness and methods of softening hard water. Purification of town water supplies. Water of crystallization, efflorescence, deliquescence and hygroscopy. Examples of the substances exhibiting these properties and their uses.</p> <p>7. Solubility</p> <p>(a) Unsaturated, saturated and supersaturated solutions. Solubility curves and simple deductions from them, (solubility defined in terms of mole per dm³) and simple calculations.</p>	<p>xvi) distinguish between ordinary chemical reaction and nuclear reaction;</p> <p>(xvii) differentiate between natural and artificial radioactivity;</p> <p>(xviii) compare the properties of the different types of nuclear radiations;</p> <p>(xix) compute simple calculations on the half-life of a radioactive material;</p> <p>(xx) balance simple nuclear equation;</p> <p>(xxi) identify the various applications of radioactivity.</p> <p>Candidates should be able to:</p> <p>(i) deduce reason (s) for the existence of air as a mixture;</p> <p>(ii) identify the principle involved in the separation of air components;</p> <p>(iii) deduce reasons for the variation in the composition of air in the environment;</p> <p>(iv) specify the uses of some of the constituents of air.</p> <p>Candidates should be able to:</p> <p>(i) identify the various uses of water;</p> <p>(ii) distinguish between the properties of hard and soft water;</p> <p>(iii) determine the causes of hardness;</p> <p>(iv) identify methods of removal of hardness;</p> <p>(v) describe the processes involved in the purification of water for town supply;</p> <p>(vi) distinguish between these phenomena;</p> <p>(vii) identify the various compounds that exhibit these phenomena.</p> <p>Candidates should be able to:</p> <p>(i) distinguish between the different types of solutions;</p> <p>(ii) interpret solubility curves;</p> <p>(iii) calculate the amount of solute that can dissolve in a given amount of solvent at a given temperature;</p> <p>(iv) deduce that solubility is temperature-dependent;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>(b) Solvents for fats, oil and paints and the use of such solvents for the removal of stains.</p> <p>(c) Suspensions and colloids: Harmattan haze and paints as examples of suspensions and fog, milk, aerosol spray and rubber solution as examples of colloids.</p> <p>8. Environmental Pollution</p> <p>(a) Sources and effects of pollutants.</p> <p>(b) Air pollution: Examples of air pollutants such as H_2S, CO, SO_2, oxides of nitrogen, fluorocarbons and dust.</p> <p>(c) Water pollution Sewage and oil pollution should be known.</p> <p>(d) Soil pollution: Oil spillage, Biodegradable and non-biodegradable pollutants.</p> <p>9. Acids, bases and salts</p> <p>(a) General characteristics and properties of acids, bases and salts. Acids/base indicators, basicity of acids, normal, acidic, basic and double salts. An acid defined as a substance whose aqueous solution furnishes H_3O^+ ions or as a proton donor. Ethanoic, citric and tartaric acids as examples of naturally occurring organic acids, alums as examples of double salts, preparation of salts by neutralization, precipitation and action of acids on metals. Oxides and trioxocarbonate (IV) salts</p> <p>(b) Qualitative comparison of the conductances of molar solutions of strong and weak acids and bases, relationship between conductance, amount of ions present and their relative mobilities.</p>	<p>(v) classify solvents based on their uses;</p> <p>(vi) differentiate between a true solution, suspension and colloids;</p> <p>(vii) compare the properties of a true solution and a 'false' solution.</p> <p>(viii) provide typical examples of suspensions and colloids.</p> <p>Candidates should be able to:</p> <p>(i) identify the different types of pollution and pollutants;</p> <p>(ii) classify pollutants as biodegradable and non-biodegradable;</p> <p>(iii) assess the effects of pollution on the environment;</p> <p>(iv) recommend measures for control of environment pollution.</p> <p>Candidates should be able to:</p> <p>(i) distinguish between the properties of acids and bases;</p> <p>(ii) identify the different types of acids and bases;</p> <p>(iii) differentiate between acidity and alkalinity using acid/base indicators;</p> <p>(iv) identify the various methods of preparation of salts;</p> <p>(v) classify different types of salts;</p> <p>vi) relate degree of dissociation to strength of acids and bases;</p> <p>(vii) relate degree of dissociation to conductance;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>(c) pH and pOH scale. pH defined as $-\log[\text{H}_3\text{O}^+]$</p> <p>(d) Acid/base titrations.</p> <p>(e) Hydrolysis of salts: Simple examples such as NH_4Cl, AlCl_3, Na_2CO_3, CH_3COONa to be mentioned</p> <p>10. Oxidation and reduction</p> <p>(a) Oxidation in terms of the addition of oxygen or removal of hydrogen.</p> <p>(b) Reduction as removal of oxygen or addition of hydrogen.</p> <p>(c) Oxidation and reduction in terms of electron transfer.</p> <p>(d) Use of oxidation numbers. Oxidation and reduction treated as change in oxidation number and use of oxidation numbers in balancing simple equations. IUPAC nomenclature of inorganic compounds.</p> <p>(e) Tests for oxidizing and reducing agents.</p> <p>11. Electrolysis</p> <p>(a) Electrolytes and non-electrolytes. Faraday's laws of electrolysis.</p> <p>(b) Electrolysis of dilute H_2SO_4, aqueous CuSO_4, CuCl_2 solution, dilute and concentrated NaCl solutions and fused NaCl and factors affecting discharge of ions at the electrodes.</p>	<p>(viii) perform simple calculations on pH;</p> <p>(ix) identify the appropriate acid-base indicator;</p> <p>(x) interpret graphical representation of titration curves;</p> <p>(xi) perform simple calculations based on the mole concept;</p> <p>(xii) balance equations for the hydrolysis of salts;</p> <p>(xiii) deduce the properties (acidic, basic, neutral) of the resultant solution.</p> <p>Candidates should be able to:</p> <p>(i) identify the various forms of expressing oxidation and reduction;</p> <p>(ii) classify chemical reactions in terms of oxidation or reduction;</p> <p>(iii) balance redox reaction equations;</p> <p>(iv) deduce the oxidation number of chemical species;</p> <p>(v) compute the number of electron transfer in redox reactions;</p> <p>(vi) identify the name of redox species using IUPAC nomenclature.</p> <p>(vii) distinguish between oxidizing and reducing agents in redox reactions.</p> <p>Candidates should be able to:</p> <p>(i) identify between electrolytes and non-electrolytes;</p> <p>(ii) perform calculations based on faraday as a mole of electrons.</p> <p>(iii) identify suitable electrodes for different electrolytes.</p> <p>(iv) specify the chemical reactions at the electrodes;</p> <p>(v) determine the products at the electrodes;</p> <p>(vi) identify the factors that affect the product of electrolysis;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>(c) Uses of electrolysis: Purification of metals e.g. copper and production of elements and compounds e.g. Al, Na, O₂, Cl₂ and NaOH.</p> <p>(d) Electrochemical cells: Redox series (K, Na, Ca, Mg, Al, Zn, Fe, PbII, H, Cu, Hg, Au.) half-cell reactions and electrode potentials. Simple calculations only.</p> <p>(e) Corrosion as an electrolytic process, cathodic protection of metals, painting, electroplating and coating with grease or oil as ways of preventing iron from corrosion.</p> <p>12. Energy changes</p> <p>(a) Energy changes(ΔH) accompanying physical and chemical changes: dissolution of substances in or reaction with water e.g. Na, NaOH, K, NH₄, Cl. Endothermic (+ΔH) and exothermic (-ΔH) reactions.</p> <p>(b) Entropy as an order-disorder phenomenon: simple illustrations like mixing of gases and dissolution of salts.</p> <p>(c) Spontaneity of reactions: $\Delta G^\theta = 0$ as a criterion for equilibrium, ΔG greater or less than zero as a criterion for non-spontaneity or spontaneity.</p> <p>13. Rates of Chemical Reaction</p> <p>(a) Elementary treatment of the following factors which can change the rate of a chemical reaction:</p> <p>(i) Temperature e.g. the reaction between HCl and Na₂S₂O₃ or Mg and HCl</p>	<p>(vii) specify the different areas of application of electrolysis;</p> <p>(viii) identify the various electrochemical cells; (ix) calculate electrode potentials using half-cell reaction equations;</p> <p>(x) determine the different areas of applications of electrolytic processes; (XI) apply the methods to protect metals.</p> <p>Candidates should be able to:</p> <p>(i) determine the types of heat changes (ΔH) in physical and chemical processes; (ii) interpret graphical representations of heat changes; (iii) relate the physical state of a substance to the degree of orderliness; (iv) determine the conditions for spontaneity of a reaction ; (v) relate (ΔH), ΔS^θ and ΔG^θ as the driving forces for chemical reactions; (vi) solve simple problems based on the relationships $\Delta G^\theta = \Delta H^\theta - T\Delta S^\theta$</p> <p>Candidates should be able to:</p> <p>(i) identify the factors that affect the rates of a chemical reaction; (ii) determine the effects of these factors on the rate of reactions; (iii) recommend ways of moderating these effects;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>(ii) Concentration e.g. the reaction between HCl and $\text{Na}_2\text{S}_2\text{O}_3$, HCl and marble and the iodine clock reaction, for gaseous systems, pressure may be used as concentration term.</p> <p>(iii) Surface area e.g. the reaction between marble and HCl with marble in</p> <p>(i) powdered form</p> <p>(ii) lumps of the same mass.</p> <p>(iv) Catalyst e.g. the decomposition of H_2O_2 or KClO_3 in the presence or absence of MnO_2</p> <p>(b) Concentration/time curves.</p> <p>(c) Activation energy Qualitative treatment of Arrhenius' law and the collision theory, effect of light on some reactions. e.g. halogenation of alkanes</p> <p>14. Chemical equilibria Reversible reactions and factors governing the equilibrium position. Dynamic equilibrium. Le Chatelier's principle and equilibrium constant. Simple examples to include action of steam on iron and N_2O_4 Type equation here. 2NO_2. No calculation will be required.</p> <p>15. Non-metals and their compounds</p> <p>(a) Hydrogen: commercial production from water gas and cracking of petroleum fractions, laboratory preparation, properties, uses and test for hydrogen.</p> <p>(b) Halogens: Chlorine as a representative element of the halogen. Laboratory preparation, industrial preparation by electrolysis, properties and uses, e.g. water sterilization, bleaching, manufacture of HCl, plastics and insecticides.</p>	<p>iv) examine the effect of concentration on the rate of a chemical reaction;</p> <p>(v) describe how the rate of a chemical reaction is affected by surface area;</p> <p>(vi) determine the types of catalysts suitable for different reactions.</p> <p>(vii) interpret reaction rate curves;</p> <p>(viii) solve simple problems on the rate of reactions;</p> <p>(x) relate the rate of reaction to the kinetic theory of matter.</p> <p>(xi) examine the significance of activation energy to chemical reactions.</p> <p>(xi) deduce the value of activation energy (E_a) from reaction rate curves.</p> <p>Candidates should be able to:</p> <p>(i) identify the factors that affects the position of equilibrium of a chemical reaction;</p> <p>(ii) predict the effects of each factor on the position of equilibrium.</p> <p>Candidates should be able to:</p> <p>(i) predict reagents for the laboratory and industrial preparation of these gases and their compounds.</p> <p>(ii) identify the properties of the gases and their compounds.</p> <p>(iii) compare the properties of these gases and their compounds.</p> <p>(iv) specify the uses of each gas and its compounds;</p> <p>(v) determine the specific test for each gas and its compounds.</p> <p>(vi) determine specific tests for Cl, SO_4^{2-}, S_2, NH_4^{4+}, NO_3^-, CO_3^{2-}.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>Hydrochloric acid preparation and properties. Chlorides and test for chlorides.</p> <p>(c) Oxygen and Sulphur</p> <p>(i) Oxygen: Laboratory preparation, properties and uses. Commercial production from liquid air. Oxides: Acidic, basic, amphoteric and neutral, trioxxygen (ozone) as an allotrope and the importance of ozone in the atmosphere.</p> <p>(ii) Sulphur: Uses and allotropes: preparation of allotropes is not expected . Preparation, properties and uses of sulphur (IV) oxide, the reaction of SO_2 with alkalis. Trioxosulphate (IV) acid and its salts, the effect of acids on salts of trioxosulphate (IV), Tetraoxosulphate (VI) acid: Commercial preparation (contact process only), properties as a dilute acid, an oxidizing and a dehydrating agent and uses. Test for SO_4^{2-}. Hydrogen sulphide: Preparation and Properties as a weak acid, reducing agent and precipitating agent. Test for S^{2-}.</p> <p>(d) Nitrogen:</p> <p>(i) Laboratory preparation (ii) Production from liquid air (iii) Ammonia: Laboratory and industrial preparations (Haber Process only), properties and uses, ammonium salts and their uses, oxidation of ammonia to nitrogen (IV) oxide and trioxonitrate (V) acid. Test NH_4^+</p> <p>(iv) Trioxonitrate (V) acid: Laboratory preparation from ammonia; properties and uses. Trioxonitrate (V) salt- action of heat and uses. Test for NO_3^-</p> <p>(v) Oxides of nitrogen: Properties.</p>	<p>(vii) identify the allotrope oxygen; (viii) determine the significance of ozone to our environment.</p> <p>(ix) identify the allotropes of sulphur and their uses;</p> <p>(x) specify the commercial preparation of the acid, its properties and uses;</p> <p>(xi) predicts reagents for the laboratory Preparation for the gas;</p> <p>(xii) specify the laboratory and industrial preparation for the gas;</p> <p>(xiii) use Haber process for the industrial preparation of ammonia;</p> <p>(xiv) identify reagents for the laboratory preparation of the acid, its properties and uses;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>The nitrogen cycle.</p> <p>(e) Carbon:</p> <p>(i) Allotropes: Uses and properties</p> <p>(ii) Carbon (IV) oxide- Laboratory preparation, properties and uses. Action of heat on trioxocarbonate (IV) salts and test for CO_3^{2-}</p> <p>(iii) Carbon (II) oxide: Laboratory preparation, properties including its effect on blood; sources of carbon (II) oxide to include charcoal, fire and exhaust fumes.</p> <p>(iv) Coal: Different types, products obtained from destructive distillation of wood and coal.</p> <p>(v) Coke: Gasification and uses. Manufacture of synthetic gas and uses.</p> <p>16. Metals and their compounds</p> <p>(a) Alkali metals e.g. sodium</p> <p>(i) Sodium hydroxide:- Production by electrolysis of brine, its action on aluminium, zinc and lead ions. Uses including precipitation of metallic hydroxides.</p> <p>(ii) Sodium trioxocarbonate (IV) and sodium hydrogen trioxocarbonate (IV): Production by Solvay process, properties and uses, e.g. Na_2CO_3 in the manufacture of glass.</p> <p>(iii) Sodium chloride: its occurrence in sea water and uses, the economic importance of sea water and the recovery of sodium chloride.</p> <p>(b) Alkaline-earth metals, e.g. calcium; calcium oxide, calcium hydroxide and calcium trioxocarbonate (IV); Properties and uses. Preparation of calcium oxide from sea shells, the chemical composition of cement and the setting of mortar. Test for Ca^{2+}.</p>	<p>(xv) examine the relevance of nitrogen cycle to the environment.</p> <p>(xvi) identify allotropes of carbon;</p> <p>(xvii) predict reagents for the laboratory preparation of CO_2;</p> <p>(xviii) specify the properties of the gas and its uses;</p> <p>(xiv) determine the test for CO_2;</p> <p>(xx) determine the reagents for the laboratory preparation of the gas;</p> <p>(xxi) examine its effect on human;</p> <p>(xxii) identify the different forms of coal;</p> <p>(xxiii) determine their uses;</p> <p>(xxiv) specify the uses of coke and synthetic gas.</p> <p>Candidates should be able to:</p> <p>(i) determine the method for extraction suitable for each metal;</p> <p>(ii) relate the methods of extraction to the properties for the metals;</p> <p>(iii) compare the chemical reactivities of the metals;</p> <p>(iv) specify the uses of the metals;</p> <p>(v) determine specific test for metallic ions;</p> <p>(vi) determine the process for the production of the compounds of these metals;</p> <p>(vii) compare the chemical reactivities of the compounds.</p> <p>(viii) specify the uses of these compounds;</p> <p>(ix) determine the processes for the preparation of the compounds of the metal;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>(c) Aluminium Purification of bauxite, electrolytic extraction, properties and uses of aluminium and its compounds. Test for Al^{3+}</p> <p>(d) Tin Extraction from its ores. Properties and uses.</p> <p>(e) Metals of the first transition series. Characteristic properties: (i) electron configuration (ii) oxidation states (iii) complex ion formation (iv) formation of coloured ions</p> <p>(f) Iron Extraction from sulphide and oxide ores, properties and uses, different forms of iron and their properties and advantages of steel over iron. Test for Fe^{2+} and Fe^{3+}</p> <p>(g) Copper Extraction from sulphide and oxide ores, properties and uses of copper salts, preparation and uses of copper (II) tetraoxosulphate (VI). Test for Cu^{2+}</p> <p>(h) Alloy Steel, stainless steel, brass, bronze, type-metal, duralumin and soft solder (constituents and uses only).</p> <p>17. Organic Compounds An introduction to the tetravalency of carbon, the general formula, IUPAC nomenclature and the determination of empirical formula of each class of the organic compounds mentioned below.</p> <p>(a) Aliphatic hydrocarbons</p> <p>(i) Alkanes Homologous series in relation to physical properties, substitution reaction and a few examples and uses of halogenated products. Isomerism: structural only (examples on isomerism should</p>	<p>(x) describe the method of purification of bauxite</p> <p>(xi) relate the method of extraction to its properties; (xii) specify the uses of tin; (xiii) identify the general properties of the first transition metals; (xiv) deduce reasons for the specific properties of the transition metals; (xv) determine the IUPAC names of simple transition metal complexes.</p> <p>(xvi) determine the suitable method of extraction for the metal; (xvii) specify the properties and uses of the metal;</p> <p>(xviii) identify the appropriate method of extraction for the metal and its compounds; (xix) relate the properties of the metal and its compound to their uses. (xx) specify the constituents and uses of the various alloys mentioned. (xxi) compare the properties and uses of alloys to pure metals.</p> <p>Candidates should be able to: (i) derive the name of organic compounds from their general formulae; (ii) relate the name of a compound to its structure; (iii) relate the tetravalency of carbon to its ability to form chains of compound (catenation); (iv) classify compounds according to their functional groups;</p> <p>(v) derive empirical formula and molecular formula, from given data; (vi) relate structure/functional groups to specific properties; (vii) derive various isomeric form from a given formula;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>not go beyond six carbon atoms).</p> <p>Petroleum: composition, fractional distillation and major products; cracking and reforming, Petrochemicals – starting materials of organic syntheses, quality of petrol and meaning of octane number.</p>	<p>(viii) distinguish between the different types of isomerism;</p> <p>(ix) classify the various types of hydrocarbon;</p> <p>(x) distinguish each class of hydrocarbon by their properties;</p> <p>(xi) specify the uses of various hydrocarbons;</p> <p>(xii) identify crude oil as a complex mixture of hydrocarbon;</p> <p>(xiii) relate the fractions of hydrocarbon to their properties and uses;</p> <p>(xiv) relate transformation processes to quality improvement of the fractions;</p>
<p>(ii) Alkenes</p> <p>Isomerism: structural and geometric isomerism, additional and polymerization reactions, polythene and synthetic rubber as examples of products of polymerization and its use in vulcanization.</p>	<p>(xv) distinguish between various polymerization processes;</p>
<p>(iii) Alkynes</p> <p>Ethyne – production from action of water on carbides, simple reactions and properties of ethyne.</p>	<p>(xvi) distinguish between aliphatic and aromatic hydrocarbons;</p>
<p>(b) Aromatic hydrocarbons e.g. benzene - Structure, properties and uses.</p>	<p>(xvii) relate the properties of benzene to its structure</p>
<p>(c) Alkanols</p> <p>Primary, secondary, tertiary – production of ethanol by fermentation and from petroleum by-products. Local examples of fermentation and distillation, e.g. gin from palm wine and other local sources and glycerol as a polyhydric alkanol.</p> <p>Reactions of OH group – oxidation as a distinguishing test between primary, secondary and tertiary alkanols.</p>	<p>(xviii) compare the various classes of alkanols;</p> <p>(xix) determine the processes involved in ethanol production;</p> <p>(xx) examine the importance of ethanol as an alternative energy provider;</p>
<p>(d) Alkanals and alkanones.</p> <p>Chemical test to distinguish between Alkanals and alkanones.</p>	<p>(xxi) differentiate between alkanals and alkanones;</p>
<p>(e) Alkanoic acids.</p> <p>Chemical reactions; neutralization and esterification, ethanedioic (oxalic) acid as an example of a dicarboxylic acid and benzene carboxylic acid as an example of an aromatic acid.</p>	<p>(xxii) compare the various classes of alkanoic acid;</p> <p>(xxiii) identify natural sources of alkanoates;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>(f) Alkanoates Formation from alkanolic acids and Alkanols – fats and oils as alkanoates. Saponification: Production of soap and margarine from alkanoates and distinction between detergents and soaps.</p> <p>(g) Amines (Alkanamines) Primary, Secondary, tertiary</p> <p>(h) Carbohydrates Classification – mono-, di- and polysaccharides, composition, chemical tests for simple sugars and reaction with concentrated tetraoxosulphate (VI) acid. Hydrolysis of complex sugars e.g. cellulose from cotton and starch from cassava, the uses of sugar and starch in the production of alcoholic beverages, pharmaceuticals and textiles.</p> <p>(i) Giant molecules e.g. proteins, enzymes, natural rubbers and polymers.</p>	<p>(xxiv) specify the uses of alkanoates;</p> <p>(xxv) distinguish between detergent and soap;</p> <p>(xxvi) compare the various classes of alkanamine;</p> <p>(xxvii) identify the natural sources of carbohydrates and giant molecules;</p> <p>(xxviii) compare the various classes of carbohydrates;</p> <p>(xxix) infer the product of hydrolysis of carbohydrates;</p> <p>(xxx) determine the uses of carbohydrates;</p> <p>(xxxi) relate giant molecules to their uses.</p>

RECOMMENDED TEXTS

- Ababio, O.Y. (2005). *New School Chemistry for Senior Secondary Schools, (Third Edition)*, Onitsha: Africana FIRST Publishers Limited
- Bajah, S.T. Teibo, B.O., Onwu, G and Obikwere, A. (1999). *Senior Secondary Chemistry, Book 1, Lagos: Longman*
- Bajah, S.T., Teibo, B.O., Onwu, G and Obikwere, A. (2000). *Senior Secondary Chemistry, Books 2 and 3, Lagos: Longman*
- Ohia, G.N.C., Adewoyin, F.A. and Akpan, B.B. (1997). *Exam Focus Chemistry for WASSCE & JME: Ibadan: University Press Plc*
- STAN (1987). *Chemistry for Senior Secondary Schools, Ibadan: Heinemann*
- Sylvester: O.O. (2004). *A Comprehensive Practical Chemistry for Senior Secondary Schools, Ibadan: Evans*
- Uche, I.O., Adenuga, I.J. and Iwuagwu, S.L. (2003). *Countdown to WASSCE/SSCE, NECO, JME Chemistry, Ibadan: Evans*
- Wisdomline Pass at Once JAMB.

PHYSICS

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Physics is to prepare the candidates for the Board's examination. It is designed to test their achievement of the course objectives, which are to:

- (1) sustain their interest in physics;
- (2) develop attitude relevant to physics that encourage accuracy, precision and objectivity;
- (3) interpret physical phenomena, laws, definitions, concepts and other theories;
- (4) demonstrate the ability to solve correctly physics problems using relevant theories and concepts.

DETAILED SYLLABUS

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1. MEASUREMENTS AND UNITS (a) Length area and volume: Metre rule, Venier calipers Micrometer Screw-guage (b) Mass (i) unit of mass (ii) use of simple beam balance (c) Time (i) unit of time (ii) time-measuring devices (d) Fundamental physical quantities (e) Derived physical quantities and their units (i) Combinations of fundamental quantities and determination of their units (f) Dimensions (i) definition of dimensions (ii) simple examples	Candidates should be able to: i. identify the units of length area and volume; ii. use different measuring instruments; iii. determine the lengths, surface areas and volume of regular and irregular bodies; iv. identify the unit of mass; v. use simple beam balance, e.g Buchart's balance and chemical balance; vi. identify the unit of time; vii. use different time-measuring devices; viii. relate the fundamental physical quantities to their units; ix. deduce the units of derived physical quantities; x. Determine the dimensions of physical quantities; xi. use the dimensions to determine the units

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<p>(g) Limitations of experimental measurements</p> <ul style="list-style-type: none"> (i) accuracy of measuring instruments (ii) simple estimation of errors. (iii) significant figures. (iv) standard form. <p>2. Scalars and Vectors</p> <ul style="list-style-type: none"> (i) definition of scalar and vector quantities (ii) examples of scalar and vector quantities (iii) relative velocity (iv) resolution of vectors into two perpendicular directions including graphical methods of solution. <p>3. Motion</p> <p>(a) Types of motion: translational, oscillatory, rotational, spin and random</p> <p>(b) linear motion</p> <ul style="list-style-type: none"> (i) speed, velocity and acceleration (ii) equations of uniformly accelerated motion (iii) motion under gravity (iv) distance-time graph and velocity time graph (v) instantaneous velocity and acceleration. <p>(c) Projectiles:</p> <ul style="list-style-type: none"> (i) calculation of range, maximum height and time of flight (ii) applications of projectile motion <p>(d) Newton's laws of motion:</p> <ul style="list-style-type: none"> (i) inertia, mass and force (ii) relationship between mass and acceleration (iii) impulse and momentum (iv) conservation of linear momentum (Coefficient of restitution not 	<p>of physical quantities;</p> <ul style="list-style-type: none"> xii. test the homogeneity of an equation; xiii. determine the accuracy of measuring instruments; xiv. estimate simple errors; xv. express measurements in standard form. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. distinguish between scalar and vector quantities; ii. give examples of scalar and vector quantities; iii. determine the resultant of two or more vectors; iv. determine relative velocity; v. resolve vectors into two perpendicular components; vi. use graphical methods to solve vector problems; <p>Candidates should be able to :</p> <ul style="list-style-type: none"> i. identify different types of motion ; ii. differentiate between speed, velocity and acceleration; iii. deduce equations of uniformly accelerated motion; iv. solve problems of motion under gravity; v. interpret distance-time graph and velocity-time graph; vi. compute instantaneous velocity and acceleration vii. establish expressions for the range, maximum height and time of flight of projectiles; viii. solve problems involving projectile motion; ix. interpret Newton's laws of motion; x. compare inertia, mass and force; xi. deduce the relationship between mass and acceleration; xii. solve numerical problems involving impulse and momentum;

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<p>necessary)</p> <p>(e) Motion in a circle:</p> <p>(i) angular velocity and angular acceleration</p> <p>(ii) centripetal and centrifugal forces.</p> <p>(iii) applications</p> <p>(f) Simple Harmonic Motion (S.H.M):</p> <p>(i) definition and explanation of simple harmonic motion</p> <p>(ii) examples of systems that execute S.H.M</p> <p>(iii) period frequency and amplitude of S.H.M</p> <p>(iv) velocity and acceleration of S.H.M</p> <p>(v) energy change in S.H.M</p> <p>4 Gravitational field</p> <p>(i) Newton's law of universal gravitation</p> <p>(ii) gravitational potential</p> <p>(iii) conservative and non-conservative fields</p> <p>(iv) acceleration due to gravity</p> $\left[g = \frac{GM}{R^2} \right]$ <p>(iv) variation of g on the earth's surface</p> <p>(v) distinction between mass and weight</p> <p>(vi) escape velocity</p> <p>(vii) parking orbit and weightlessness</p> <p>5. Equilibrium of Forces</p> <p>(a) equilibrium of a particles:</p> <p>(i) equilibrium of coplanar forces</p> <p>(ii) triangles and polygon of forces</p> <p>(iii) Lami's theorem</p> <p>(b) principles of moments</p> <p>(i) moment of a force</p> <p>(ii) simple treatment and moment of a couple (torque)</p> <p>(iii) applications</p> <p>(c) conditions for equilibrium of rigid bodies under the action of parallel and non-parallel forces</p> <p>(i) resolution and composition of forces in two perpendicular directions,</p>	<p>xiii. interpret the law of conservation of linear momentum;</p> <p>xiv. establish expression for angular velocity, angular acceleration and centripetal force;</p> <p>xv. solve numerical problems involving motion in a circle;</p> <p>xvi. establish the relationship between period and frequency;</p> <p>xvii. analyse the energy changes occurring during S.H.M</p> <p>Candidates should be able to:</p> <p>i. identify the expression for gravitational force between two bodies;</p> <p>ii. apply Newton's law of universal gravitation;</p> <p>iii. give examples of conservative and non-conservation fields;</p> <p>iv. deduce the expression for gravitational field potentials;</p> <p>v. identify the causes of variation of g on the earth's surface;</p> <p>vi. differentiate between mass and weight;</p> <p>vii. determine escape velocity</p> <p>Candidates should be able to:</p> <p>i. apply the conditions for the equilibrium of coplanar force to solve problems;</p> <p>ii. use triangle and polygon laws of forces to solve equilibrium problems;</p> <p>iii. use Lami's theorem to solve problems;</p> <p>iv. analyse the principle of moment of a force;</p> <p>v. determine moment of a force and couple;</p> <p>vi. describe some applications of moment of a force and couple;</p> <p>vii. apply the conditions for the equilibrium of rigid bodies to solve problems;</p>

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(ii) resultant and equilibrant (d) centre of gravity and stability (i) stable, unstable and neutral equilibra 6. Work Energy and Power (i) definition of work, energy and power (ii) forms of energy (iii) conservation of energy (iv) qualitative treatment between different forms of energy (v) interpretation of area under the force-distance curve 7. Friction (i) static and dynamic friction (ii) coefficient of limiting friction and its determination. (iii) advantages and disadvantages of friction (iv) reduction of friction (v) qualitative treatment of viscosity and terminal viscosity. (vi) stoke's law. 8. Simple Machines (i) definition of machine (ii) types of machines (iii) mechanical advantage, velocity ratio and efficiency of machines 9. Elasticity (i) elastic limit, yield point, breaking point, Hooke's law and Young's modulus (ii) the spring balance as a device for measuring force (iii) work done in springs and elastic strings 10. Pressure (a) Atmospheric Pressure (i) definition of atmospheric pressure (ii) units of pressure (S.I) units (iii) measurement of pressure (iv) simple mercury barometer, aneroid barometer and manometer. (v) variation of pressure with height (vi) the use of barometer as an altimeter. (b) Pressure in liquids (i) the relationship between pressure, depth and density ($P = \rho gh$)	viii. resolve forces into two perpendicular directions; ix. determine the resultant and equilibrant of forces; x. differentiate between stable, unstable and neutral equilibrate. Candidates should be able to: i. differentiate between work, energy and power; ii. compare different forms of energy, giving examples; iii. apply the principle of conservation of energy; iv. examine the transformation between different forms of energy; v. interpret the area under the force –distance curve. Candidates should be able to: i. differentiate between static and dynamic friction ii. determine the coefficient of limiting friction; iii. compare the advantages and disadvantage of friction; iv. suggest ways by which friction can be reduced; v. analyse factors that affect viscosity and terminal velocity; vi. apply stoke's law. Candidates should be able to: i. identify different types of machines; ii. solve problems involving simple machines. Candidates should be able to: i. interpret force-extension curves; ii. interpret Hooke's law and Young's modulus of a material; iii. use spring balance to measure force; iv. determine the work done in spring and elastic strings Candidates should be able to: i. recognize the S.I units of pressure; ii. identify pressure measuring instruments; iii. relate the variation of pressure to height; iv. use a barometer as an altimeter. v. determine the relationship between pressure, depth and density;

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(ii) transmission of pressure in liquids (Pascal's Principle) (iii) application 11. Liquids At Rest (i) determination of density of solid and liquids (ii) definition of relative density (iii) upthrust on a body immersed in a liquid (iv) Archimede's principle and law of floatation and applications, e.g. ships and hydrometers. 12. Temperature and Its Measurement (i) concept of temperature (ii) thermometric properties (iii) calibration of thermometers (iv) temperature scales –Celsius and Kelvin. (v) types of thermometers (vi) conversion from one scale of temperature to another 13. Thermal Expansion (a) Solids (i) definition and determination of linear, volume and area expansivities (ii) effects and applications, e.g. expansion in building strips and railway lines (iv) relationship between different expansivities (b) Liquids (i) volume expansivity (ii) real and apparent expansivities (iii) determination of volume expansivity (iv) anomalous expansion of water 14. Gas Laws (i) Boyle's law ($PV = \text{constant}$) (ii) Charle's law ($\frac{V}{P} = \text{constant}$) (iii) Pressure law ($\frac{P}{T} = \text{constant}$) (iv) absolute zero of temperature (v) general gas quation ($\frac{PV}{T} = \text{constant}$) (vi) ideal gas equation ($Pv = nRT$)	vi apply the principle of transmission of pressure in liquids to solve problems; vii. determine the application of pressure in liquid; Candidates should be able to: i. distinguish between density and relative density of substances; ii. determine the upthrust on a body immersed in a liquid; iii. apply Archimedes' principle and law of floatation to solve problems. Candidates should be able to: i. identify thermometric properties of materials that are used for different thermometers; ii. calibrate thermometers; iii. differentiate between temperature scales e.g Clesius and Kelvin. iv. compare the types of thermometers; vi. convert from one scale of temperature to another. Candidates should be able to: i. determine linear and volume expansivities; ii. assess the effects and applications of thermal expansivities; iii. determine the relationship between different expansivities; iv. determine volume, apparent, and real expansivities of liquids; v. analyse the anomalous expansion of water. Candidates should be able to: i. interpret the gas laws; ii. use expression of these laws to solve numerical problems.

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15. Quantity of Heat <ul style="list-style-type: none"> (i) heat as a form of energy (ii) definition of heat capacity and specific heat capacity of solids and liquids (iii) determination of heat capacity and specific heat capacity of substances by simple methods e.g method of mixtures and electrical method 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. differentiate between heat capacity and specific heat capacity; ii. determine heat capacity and specific heat capacity using simple methods; iii. examine some numerical problems.
16. Change of State <ul style="list-style-type: none"> (i) latent heat (ii) specific latent heats of fusion and vaporization; (iii) melting, evaporation and boiling (iv) the influence of pressure and of dissolved substances on boiling and melting points. (v) application in appliances 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. differentiate between latent heat and specific latent heat of fusion and vaporization; ii. differentiate between melting, evaporation and boiling; iii. examine the effects of pressure and of dissolved substance on boiling and melting points.
17. Vapours <ul style="list-style-type: none"> (i) unsaturated and saturated vapours (ii) relationship between saturated vapour pressure (S.V.P) and boiling (iii) determination of S.V.P by barometer tube method (iv) formation of dew, mist, fog, and rain (v) study of dew point, humidity and relative humidity (vi) hygrometry; estimation of the humidity of the atmosphere using wet and dry bulb hygrometers. 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. distinguish between saturated and unsaturated vapours; ii. relate saturated vapour pressure to boiling point; iii. determine S.V.P by barometer tube method; iv. differentiate between dew point, humidity and relative humidity; vi. estimate the humidity of the atmosphere using wet and dry bulb hygrometers.
18. Structure of Matter and Kinetic Theory <ul style="list-style-type: none"> (a) Molecular nature of matter <ul style="list-style-type: none"> (i) atoms and molecules (ii) molecular theory: explanation of Brownian motion, diffusion, surface tension, capillarity, adhesion, cohesion and angles of contact (iii) examples and applications. (b) Kinetic Theory <ul style="list-style-type: none"> (i) assumptions of the kinetic theory (ii) using the theory to explain the pressure exerted by gas, Boyle's law, Charles' law, melting, boiling, vapourization, change in temperature evaporation, etc. 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. differentiate between atoms and molecules; ii. use molecular theory to explain Brownian motion, diffusion, surface, tension, capillarity, adhesion, cohesion and angle of contact; iii. examine the assumptions of kinetic theory; iv. interpret kinetic theory, the pressure exerted by gases Boyle's law, Charles' law melting, boiling vaporization, change in temperature, evaporation, etc.
19. Heat Transfer <ul style="list-style-type: none"> (i) conduction, convection and radiation as modes of heat transfer (ii) temperature gradient, thermal conductivity and heat flux (iii) effect of the nature of the surface on the 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. differentiate between conduction, convection and radiation as modes of heat transfer; ii. determine temperature gradient, thermal

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<p>energy radiated and absorbed by it. (iv) the conductivities of common materials. (v) the thermos flask (vii) land and sea breeze</p> <p>20. Waves (a) Production and Propagation (i) wave motion, (ii) vibrating systems as source of waves (iii) waves as mode of energy transfer (iv) distinction between particle motion and wave motion (v) relationship between frequency, wavelength and wave velocity ($V=f\lambda$) (vi) phase difference (vii) progressive wave equation e.g $y = A \sin \frac{2\pi}{\lambda} (vt \pm x)$</p> <p>(b) Classification (i) types of waves; mechanical and electromagnetic waves (ii) longitudinal and transverse waves (iii) stationary and progressive waves (iv) examples of waves from springs, ropes, stretched strings and the ripple tank.</p> <p>(c) Characteristics/Properties (i) reflection, refraction, diffraction and plane Polarization (ii) superposition of waves e.g interference</p> <p>21. Propagation of Sound Waves (i) the necessity for a material medium (ii) speed of sound in solids, liquids and air; (iii) reflection of sound; echoes, reverberation and their applications (iv) disadvantages of echoes and reverberations</p> <p>22. Characteristics of Sound Waves (i) noise and musical notes (ii) quality, pitch, intensity and loudness and their application to musical instruments; (iii) simple treatment of overtones produced by</p>	<p>conductivity and heat flux; iii. assess the effect of the nature of the surface on the energy radiated and absorbed by it; iv. compare the conductivities of common materials; v. relate the component part of the working of the thermos flask; vi. differentiate between land and sea breeze.</p> <p>Candidates should be able to: i. interpret wave motion; ii. identify vibrating systems as sources of waves; iii use waves as a mode of energy transfer; iv distinguish between particle motion and wave motion; v. relate frequency and wave length to wave velocity; vi. determine phase difference;</p> <p>vii. use the progressive wave equation to compute basic wave parameters;</p> <p>viii. differentiate between mechanical and electromagnetic waves; ix. differentiate between longitudinal and transverse waves x. distinguish between stationary and progressive waves; xi. indicate the example of waves generated from springs, ropes, stretched strings and the ripple tank;</p> <p>xii. differentiate between reflection, refraction, diffraction and plane polarization of waves; xiii. analyse the principle of superposition of waves.</p> <p>Candidates should be able to: i. determine the need for a material medium in the propagation of sound waves; ii. compare the speed of sound in solids, liquids and air; iii. relate the effects of temperature and pressure to the speed of sound in air; iv. solve problem on echoes, reverberation; v. compare the disadvantages and echoes.</p> <p>Candidates should be able to: i. differentiate between noise and musical notes; ii. analyse quality, pitch, intensity and loudness of sound notes; iii. evaluate the application of (ii) above in the</p>

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<p>vibrating strings and their columns</p> $F_0 = \frac{1}{2L} \sqrt{\frac{T}{m}}$ <p>(iv) acoustic examples of resonance (v) frequency of a note emitted by air columns in closed and open pipes in relation to their lengths.</p> <p>23. Light Energy</p> <p>(a) Source of Light:</p> <p>(i) natural and artificial source of light (ii) luminous and non-luminous objects</p> <p>(b) Propagation of light</p> <p>(i) speed, frequency and wavelength of light (ii) formation of shadows and eclipse (iii) the pin-hole camera.</p> <p>24. Reflection of Light at Plane and Curved Surfaces</p> <p>(i) laws of reflection. (ii) application of reflection of light (iii) formation of images by plane, concave and convex mirrors and ray diagrams (iv) use of the mirror formula</p> $\frac{1}{f} = \frac{1}{u} + \frac{1}{v}$ <p>(v) linear magnification</p> <p>25. Refraction of Light Through</p> <p>(a) Plane and Curved Surface</p> <p>(i) explanation of refraction in terms of velocity of light in the media. (ii) laws of refraction (iii) definition of refractive index of a medium (iv) determination of refractive index of glass and liquid using Snell's law (v) real and apparent depth and lateral displacement (vi) critical angle and total internal reflection</p> <p>(b) Glass Prism</p> <p>(i) use of the minimum deviation formula</p> $\mu = \frac{\sin \left[\frac{A + D}{2} \right]}{\sin \left[\frac{A}{2} \right]}$	<p>construction of musical instruments;</p> <p>iv. identify overtones by vibrating strings and air columns; v. itemize acoustical examples of resonance; vi. determine the frequencies of notes emitted by air columns in open and closed pipes in relation to their lengths.</p> <p>Candidates should be able to:</p> <p>i. compare the natural and artificial sources of light; ii. differentiate between luminous and non luminous objects; iii. relate the speed, frequency and wavelength of light; iv. interpret the formation of shadows and eclipses; v. solve problems using the principle of operation of a pin-hole camera.</p> <p>Candidates should be able to:</p> <p>i. interpret the laws of reflection; ii. illustrate the formation of images by plane, concave and convex mirrors; iii. apply the mirror formula to solve optical problems; iv. determine the linear magnification; v. apply the laws of reflection of light to the working of periscope, kaleidoscope and the sextant.</p> <p>Candidates should be able to:</p> <p>i. interpret the laws of reflection; ii. determine the refractive index of glass and liquid using Snell's law; iii. determine the refractive index using the principle of real and apparent depth; iv. determine the conditions necessary for total internal reflection; v. examine the use of periscope, prism, binoculars, optical fibre; vi. apply the principles of total internal reflection to the formation of mirage; vii. use of lens formula and ray diagrams to solve optical numerical problems; viii. determine the magnification of an image; ix. calculate the refractive index of a glass prism using minimum deviation formula.</p>

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(ii) type of lenses (iii) use of lens formula $\frac{1}{f} = \frac{1}{u} + \frac{1}{v}$ (iv) magnification 26. Optical Instruments (i) the principles of microscopes, telescopes, projectors, cameras and the human eye (physiological details of the eye are not required) (ii) power of a lens (iii) angular magnification (iv) near and far points (v) sight defects and their corrections 27. (a) dispersion of light and colours (i) dispersion of white light by a triangular prism (ii) production of pure spectrum (iii) colour mixing by addition and subtraction (iv) colour of objects and colour filters (b) electromagnetic spectrum (i) description of sources and uses of various types of radiation. 28. Electrostatics (i) existence of positive and negative charges in matter (ii) charging a body by friction, contact and induction (iii) electroscope (iv) coulomb's inverse square law electric field and potential (v) electric field and potential (vi) electric discharge and lightning 29. Capacitors (i) functions of capacitors (ii) parallel plate capacitors (iii) capacitance of a capacitors (iv) the relationship between capacitance, area separation of plates and medium between	 Candidates should be able to: i. apply the principles of operation of optical instruments to solve problems; ii. distinguish between the human eye and the cameras; iii. calculate the power of a lens; iv. determine the angular magnification of optical instruments; v. determine the near and far points; vi. detect sight defects and their corrections. Candidates should be able to: i. relate the expression for gravitational force between two bodies; ii. apply Newton's law of universal gravitation; iii. identify primary colours and obtain secondary colours by mixing; iv. deduces why objects have colours; v. analyse colours using colour filters vi. analyse the electromagnetic spectrum in relation to their wavelengths, sources, detection and uses Candidates should be able to: i. identify charges; ii. examine uses of an electroscope; iii. apply coulomb's square law of electrostatic to solve problems; iv. deduce expressions for electric field and potential; v. identify electric field flux patterns of isolated and interacting charges; vi. analyse the distribution of charges on a conductor and how it is used in lightning conductors. Candidates should be able to: i. determine uses of capacitors; ii. analyse parallel plate capacitors; iii. determine the capacitance of a capacitors; iv. analyse the factors that affect the capacitance of a capacitor;

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<p>the plates.</p> $C = \frac{3A}{d}$ <p>(v) capacitors in series and parallel (vi) energy stored in a capacitor</p> <p>30. Electric Cells</p> <p>(i) simple voltaic cell and its defects; (ii) Daniel cell, Leclanche cell (wet and dry) (iii) lead –acid accumulator and Nickel-Iron (Nife) Lithium Ion and Mercury cadmium (iv) maintenance of cells and batteries (detail treatment of the chemistry of a cell is not required (v) arrangement of cells</p> <p>31. Current Electricity</p> <p>(i) electromagnetic force (emf), potential difference (p.d.), current, internal resistance of a cell and lost Volt (ii) Ohm’s law (iii) measurement of resistance (iv) meter bridge (v) resistance in series and in parallel and their combination (vi) the potentiometer method of measuring emf, current and internal resistance of a cell.</p> <p>32. Electrical Energy and Power</p> <p>(i) concepts of electrical energy and power (ii) commercial unit of electric energy and power (iii) electric power transmission (iv) heating effects of electric current.</p> <p>33. Magnets and Magnetic Fields</p> <p>(i) natural and artificial magnets (ii) magnetic properties of soft iron and steel (iii) methods of making magnets and demagnetization (iv) concept of magnetic field (v) magnetic field of a permanent magnet (vi) magnetic field round a straight current carrying conductor, circular wire and solenoid (vii) properties of the earth’s magnetic field; north and south poles, magnetic meridian</p>	<p>v. solve problems involving the arrangement of capacitor; vi. determine the energy stored in capacitors</p> <p>Candidates should be able to:</p> <p>i. identify the defects of the simple voltaic cell and their corrected; ii. compare different types of cells including solar cell; iii. compare the advantages of lead-acid and Nikel iron accumulator; iv. solve problems involving series and parallel combination of cells.</p> <p>Candidates should be able to:</p> <p>i. differentiate between emf, p.d., current and internal resistant of a cell; ii. apply Ohm’s law to solve problems; iii. use metre bridge to calculate resistance; iv. compute effective total resistance of both parallel and series arrangement of resistors; v. determine the resistivity and the conductivity of a conductor; vi. measure emf. current and internal resistance of a cell using the potentiometer.</p> <p>Candidates should be able to:</p> <p>i. apply the expressions of electrical energy and power to solve problems; ii. analyse how power is transmitted from the power station to the consumer; iii. identify the heating effects of current and its uses.</p> <p>Candidates should be able to:</p> <p>i. give examples of natural and artificial magnets ii. differentiate between the magnetic properties of soft iron and steel; iii. identify the various methods of making magnets and demagnetizing magnets; iv. describe how to keep a magnet from losing its magnetism; v. determine the flux pattern exhibited when two magnets are placed together pole to pole; vi. determine the flux of a current carrying conductor, circular wire and solenoid including the polarity of the solenoid;</p>

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and angle of dip and declination (viii) flux and flux density (ix) variation of magnetic field intensity over the earth's surface (x) applications: earth's magnetic field in navigation and mineral exploration.	vii. determine the flux pattern of magnetic placed in the earth's magnetic fields; viii. identify the magnetic elements of the earth's flux; ix. determine the variation of earth's magnetic field on the earth's surface; x. examine the applications of the earth's magnetic field.
34. Force on a Current-Carrying Conductor in a Magnetic Field (i) quantitative treatment of force between two parallel current-carrying conductors (ii) force on a charge moving in a magnetic field; (iii) the d. c. motor (iv) electromagnets (v) carbon microphone (vi) moving coil and moving iron instruments (vii) conversion of galvanometers to ammeters and voltmeter using shunts and multipliers	Candidates should be able to: i. determine the direction of force on a current carrying conductor using Fleming's left-hand rule; ii. interpret the attractive and repulsive forces between two parallel current-carrying conductors using diagrams; iii. determine the relationship between the force, magnetic field strength, velocity and the angle through which the charge enters the field; iv. interpret the working of the d. c. motor; v. analyse the principle of electromagnets give examples of its application; vi. compare moving iron and moving coil instruments; vii. convert a galvanometer into an ammeter or a voltmeter.
35. (a) Electromagnetic Induction (i) Faraday's laws of electromagnetic induction (ii) factors affecting induced emf (iii) Lenz's law as an illustration of the principle of conservation of energy (iv) a.c. and d.c generators (v) transformers (vi) the induction coil (b) Inductance (i) explanation of inductance (ii) unit of inductance (iii) energy stored in an inductor $E = \frac{1}{2} I^2 L$ (iv) application/uses of inductors (c) Eddy Current (i) reduction of eddy current (ii) applications of eddy current	Candidates should be able to: i. interpret the laws of electromagnetic induction; ii. identify factors affecting induced emf; iii. recognize how Lenz's law illustrates the principle of conservation of energy; iv. interpret the diagrammatic set up of A. C. generators; v. identify the types of transformer; vi. examine principles of operation of transformers; vii. assess the functions of an induction coil; viii. draw some conclusions from the principles of operation of an induction coil; ix. interpret the inductance of an inductor; x. recognize units of inductance; xi. calculate the effective total inductance in series and parallel arrangement; xii. deduce the expression for the energy stored in an inductor; xiii. examine the applications of inductors; xiv. describe the method by which eddy current losses can be reduced. xv. determine ways by which eddy currents can be used.

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36. Simple A. C. Circuits (i) explanation of a.c. current and voltage (ii) peak and r.m.s. values (iii) a.c. source connected to a resistor; (iv) a.c source connected to a capacitor-capacitive reactance (v) a.c source connected to an inductor-inductive reactance (vi) series R-L-C circuits (vii) vector diagram (viii) reactance and impedance of alternative quantities (ix) effective voltage in an R-L-C circuits (x) resonance and resonance frequency $F_0 = \frac{1}{2\pi\sqrt{LC}}$	Candidates should be able to: i. identify a.c. current of and d. d. voltage; ii. differentiate between the peak and r.m.s. values of a.c.; iii. determine the phase difference between current and voltage; iv. interpret series R-L-C circuits; v. analyse vector diagrams; vi. calculate the effective voltage reactance and impedance; vii. recognize the condition by which the circuit is at resonance; viii. determine the resonant frequency of R-L-C arrangement; ix. determine the instantaneous power, average power and the power factor in a. c. circuits
37. Conduction of Electricity Through (a) liquids (i) electrolytes and non-electrolyte (ii) concept of electrolysis (iii) Faraday's law of electrolysis (iv) application of electrolysis, e.g electroplating, calibration of ammeter etc. (b) gases (i) discharge through gases (quantitative treatment only) (ii) application of conduction of electricity through gases	Candidates should be able to: i. distinguish between electrolytes and non-electrolytes; ii. analyse the processes of electrolytes; iii. apply Faraday's laws of electrolysis to solve problems; iv. analyse discharge through gases; v. determine some applications/uses of conduction of electricity through gases.
38. Elementary Modern Physics (i) models of the atom and their limitations (ii) elementary structure of the atom; (iii) energy levels and spectra (iv) thermionic and photoelectric emissions; (v) Einstein's equation and stopping potential (vi) applications of thermionic emissions and photoelectric effects (vii) simple method of production of x-rays (viii) properties and applications of alpha, beta and gamma rays (xiii) half-life and decay constant (xiv) simple ideas of production of energy by fusion and fission	Candidates should be able to: i. identify the models of the atom and write their limitation; ii. describe elementary structure of the atom; iii. differentiate between the energy levels and spectra of atoms; iv. compare thermionic emission and photoelectric emissions; v. apply Einstein's equation to solve problems of photoelectric effect; vi. calculate the stopping potential; vii. relate some application of thermionic emission and photoelectric effects; viii. interpret the process involved in the production of x-rays;p ix identify some properties and application of x-rays

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<p>(xv) binding energy, mass defect and Einsterin's Energy equation</p> $\left[\Delta E = \Delta Mc^2 \right]$ <p>(xvi) wave-particle paradox (duality of matter) (xvii) electron diffraction (xviii) the uncertainty principle</p> <p>39. Introductory Electronics</p> <p>(i) distinction between metals, semiconductors and insulators (elementary knowledge of band gap is required) (ii) intrinsic and extrinsic semi-conductors; (iii) uses of semiconductors and diodes in rectification and transistors in amplification (iv) n-type and p-type semi-conductors (v) elementary knowledge of diodes and transistors (vi) use of semiconductors and diodes in rectification and transistors in amplification.</p>	<p>x. analyse elementary radioactivity; xi. distinguish between stable and unstable nuclei; xii. identify isotopes of an element; xiii. compare the properties of alpha, beta and gamma rays; xiv. relate half-life and decay constant of a radioactive element; xv. determine the binding energy, mass defect and Einsterin's energy equation; xvi. analyse wave particle duality; xvii. solve some numerical problems based on the uncertainty principle.</p> <p>Candidates should be able to:</p> <p>i. differentiate between conductors, semi-conductors and insulators; ii. distinguish between intrinsic and extrinsic semiconductors; iii. distinguish between electron and hole carriers; iv. distinguish between n-type and p-type semiconductor; v. analyse diodes and transistor (detailed characteristics of transistor not required); vi. relate diodes to rectification and transistor to amplification.</p>

RECOMMENDED TEXTS

Nelkon, M (1977). *Fundamentals of Physics*, Great Britain: Hart-Davis Educational.

Nelkon, M and Parker, (1989). *Advanced Level Physics* (Sixth Edition), Heinemann

Okeke, P. N and Anyakoha, M. W (2000). *Senior Secondary School Physics*, Lagos: Pacific Printers

Olumuyionwa A. and Ogunkoya O. O (1992). *Comprehensive Certificate Physics*, Ibadan: University Press Plc.

Ike, E. E (2006). *Essential Principles of Physics*, Aba Enic Publishers

Ike, E. E (2005). *Numerical Problems and Solutions in Physics*, F = Ma Enic Publishers, Aba

BIOLOGY

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Biology is to prepare the candidates for the Board's examination. It is designed to test their achievement of the course objectives, which are to:

1. demonstrate sufficient knowledge of the concepts of the interdependence and unity of life;
2. account for continuity of life through reorganization, inheritance and evolution;
3. apply biological principles and concepts to everyday life, especially to matters affecting the individual, society, the environment, community health and the economy.

DETAILED SYLLABUS

A: VARIETY OF ORGANISMS

TOPICS/CONTENTS/NOTES	OBJECTIVES
1. Living organisms: a. Characteristics b. Cell structure and functions of cell Components c. Level of organization i. Cell e.g. <i>Amoeba</i> , cheek cell ii. Tissue, e.g. epithelial tissues iii. Organ, e.g. leaf and heart iv. Systems, e.g. reproductive v. Organisms e.g. <i>Chlamydomonas</i>	Candidates should be able to: i. differentiate between the characteristics of living and non-living things; ii. identify the cell structures; iii. analyse the functions of the components of plants and animal cells; iv. compare and contrast the structure of plant and animal cells; v. trace the levels of organization among organisms in their logical sequence in relation to the five kingdom classification of living organisms.
2. Evolution among the following: a. Monera (prokaryotes), e.g. bacteria and blue green algae. b. Protista (protozoans and protophyta), e.g. <i>Amoeba</i> , <i>Euglena</i> and <i>Paramecium</i> c. Fungi, e.g. <i>mushroom</i> and <i>Rhizopus</i> .	Candidates should be able to: i. analyse external features and characteristics of the listed organisms; ii. apply the knowledge from (i) above to demonstrate increase in structural complexity; iii. trace the stages in the life histories of the listed organisms;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>d. Plantae (plants)</p> <ul style="list-style-type: none"> i. Thallophyta (e.g. <i>Spirogyra</i>) ii. Bryophyta (mosses and liverworts) e.g. <i>Bryachymerium</i> and <i>Merchantia</i>. iii. Pteridophyta (ferns) e.g. <i>Dryopteris</i>. iv. Spermatophyta (Gymnospermae and Angiospermae) <ul style="list-style-type: none"> - Gymnosperms e.g. Cycads and conifers. - Angiosperms (monocots, e.g. maize; dicots, e.g. water leaf) <p>e. Animalia (animals)</p> <ul style="list-style-type: none"> i. Invertebrates <ul style="list-style-type: none"> - coelenterate (e.g. <i>Hydra</i>) - Platyhelminthes (flatworms) e.g. <i>Taenia</i> - Nematoda (roundworms) - Annelida (e.g. earthworm) - Arthropoda (insects) e.g. Millipedes, ticks, mosquito, cockroach, housefly, bee, butterfly - Mollusca (e.g. snails) ii. Multicellular animals (vertebrates) <ul style="list-style-type: none"> - pisces (cartilaginous and bony fish) - Amphibia (e.g. toads and frogs) - Reptilia (e.g. lizards, snakes and turtles) - Aves (birds) - Mammalia (mammals) <p>3. Structural/behavioural adaptations of vertebrates (bony fish, toad, lizard, bird, small mammal) to the environment.</p>	<ul style="list-style-type: none"> iv. apply the knowledge of the life histories to demonstrate gradual transition from life in water to life on land; v. trace the evolution of the listed plants. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. trace the evolution of the invertebrate animals; ii. determine the economic importance of the insects studied; iii. assess their values to the environment; <ul style="list-style-type: none"> i. trace the evolution of multi-cellular animals; ii. determine their economic importance. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. describe how the various structures and behaviour adapt these organisms to their environment;

B: FORM AND FUNCTIONS

TOPICS/CONTENTS/NOTES	OBJECTIVES
1. Internal structure of a flowering plant <ul style="list-style-type: none"> i. Root ii. Stem iii. Leaf b. Internal structure of a mammal	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. identify the transverse sections of these organs; ii. relate the structure of these organs to their functions. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. examine the arrangement of the mammalian internal organs; ii. describe the appearance and position of the digestive, reproductive and excretory organs.
2. Nutrition <ul style="list-style-type: none"> a. Modes of nutrition <ul style="list-style-type: none"> i. Autotrophic ii. Heterotrophic Types of Nutrition	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. compare the photosynthetic and chemosynthetic modes of nutrition; ii. provide examples from both flowering and non-flowering plants; iii. compare autotrophic and heterotrophic modes of nutrition. <p>Candidates should be able to: differentiate the following examples:</p> <ul style="list-style-type: none"> - holozoic (sheep and man) - Parasitic (<i>roundworm</i>, <i>tapeworm</i> and <i>Loranthus</i>) - saprophytic (<i>Rhizopus</i> and <i>mushroom</i>) - carnivorous plants (sundew and bladderwort) - determine their nutritional value.
<ul style="list-style-type: none"> b. Plant nutrition <ul style="list-style-type: none"> i. Photosynthesis <ul style="list-style-type: none"> ii. Mineral requirements (macro and micro-nutrients) 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. analyse the light and dark reactions, materials and conditions necessary for photosynthesis; ii. determine the necessity of light, carbon (IV) oxide and chlorophyll in photosynthesis; iii. detect the presence of starch in a leaf as an evidence of photosynthesis. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. identify macro-and micro-elements required by plants; ii. determine the deficiency symptoms of nitrogen, phosphorous and potassium.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>c. Animal nutrition</p> <p>i. Classes of food substances; carbohydrates, proteins, fats and oils, vitamins, mineral salts and water</p> <p>ii. Food tests (e.g. starch, reducing sugar, protein, oil, fat etc.</p> <p>iii. The mammalian tooth (structures, types and functions)</p> <p>iv. Mammalian alimentary canal</p> <p>v. Nutrition process (ingestion, digestion, absorption, and assimilation of digested food.</p> <p>3. Transport</p> <p>a. Need for transportation</p> <p>b. Materials for transportation. Excretory products, gases, manufactured food, digested food, nutrient, water and hormones)</p> <p>c. Channels for transportation</p> <p>i. Mammalian circulatory system (heart, arteries, veins, and capillaries)</p> <p>ii Plant vascular system (phloem and xylem)</p>	<p>Candidates should be able to:</p> <p>i. indicate the sources of the various classes of food;</p> <p>ii. relate the importance of each class;</p> <p>iii. determine the importance of a balanced diet.</p> <p>Candidates should be able to detect the presence of the listed food items from the result of a given experiment.</p> <p>Candidates should be able to:</p> <p>i. describe the structure of a typical mammalian tooth;</p> <p>ii. differentiate the types of mammalian tooth and relate their structures to their functions.</p> <p>iii. compare the dental formulae of man, sheep, and dog.</p> <p>Candidates should be able to:</p> <p>i. relate the structure of the various components of the alimentary canal and its accessory organs (liver, pancreas, and gall bladder) to their functions.</p> <p>Candidates should be able to:</p> <p>i. identify the general characteristics of digestive enzymes;</p> <p>ii. associate enzymes with digestion of carbohydrates, proteins and fats;</p> <p>iii. determine the end products of these classes of food.</p> <p>Candidates should be able to:</p> <p>i. determine the relationship between increase in size and complexity and the need for the development of a transport system.</p> <p>Candidates should be able to:</p> <p>i. determine the sources of materials and the forms in which they are transported.</p> <p>Candidates should be able to:</p> <p>i. describe the general circulatory system;</p> <p>ii. compare specific functions of the hepatic portal vein, the pulmonary vein and artery, aorta, the renal artery and vein</p> <p>Candidates should be able to:</p> <p>i. identify the organs of the plant vascular system;</p> <p>ii. compare the specific functions of the phloem and xylem</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
d. Media and processes of mechanism for transportation.	Candidates should be able to: i. identify media of transportation (e.g. cytoplasm, cell sap, body fluid, blood and lymph); ii. determine the composition of blood and lymph; iii. describe diffusion, osmosis, plasmolysis and turgidity as mechanism of transportation in organisms; iv. compare the various mechanisms of open circulatory systems, transpiration pull, root pressure and active transport as mechanism of transportation in plants.
4. Respiration	Candidates should be able to: i. examine the significance of respiration; ii. describe the process of glycolysis; iii. compare the similarities of the process in plants and animals; iv. deduce from an experimental set up, gaseous exchange and products, exchange and production of heat energy during respiration.
a. Respiratory organs and surfaces	Candidates should be able to: i. describe the following respiratory organs and surfaces with organisms in which they occur; body surface, gill, trachea, lungs, stomata and lenticels; ii. relate the characteristics of the respiratory surfaces listed above to their functions.
b. The mechanism of gaseous exchange in: i. Plants ii. Mammals	Candidates should be able to: i. describe the mechanism for the opening and closing of the stomata; ii. determine respiratory movements in these animals.
c. Aerobic respiration	Candidates should be able to: iii. examine the role of oxygen in the liberation of energy for the activities of the living organisms; iv. deduce the effect of insufficient supply of oxygen to the muscles.
d. Anaerobic respiration	Candidates should be able to: i. use yeast cells and sugar solution to demonstrate the process of fermentation; ii. assess the economic importance of yeasts;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>5.Excretion</p> <p>a. Types of excretory structures: contractile vacuole, flamecell, nephridium, Malpighian tubule, kidney, stoma and lenticel.</p> <p>b. Excretory mechanisms:</p> <ol style="list-style-type: none"> Kidneys lungs skin <p>c. Excretory products of plants</p> <p>6. Support and movement</p> <p>a. Tropic, tactic, nastic and sleep movements in plants</p> <p>b. supporting tissues in animals</p> <p>c. Types and functions of the skeleton</p> <ol style="list-style-type: none"> Exoskeleton Endoskeleton <p>iii. Functions of the skeleton in animals</p>	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> Interpret the meaning and significance of excretion; identify the characteristics of each structure. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> relate the structure of the kidneys to the excretory and osmo-regulatory functions. identify the functions and excretory products of the lungs and the skin. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> deduce the economic importance of the excretory products of plants, carbon (IV) oxide, tannins, resins, gums, mucilage, alkaloids etc. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> determine the need for support and movement in organisms; identify supporting tissues in plants (collenchyma, sclerenchyma, xylem and phloem fibres); describe the distribution of supporting tissues in roots, stem, and leaf. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> relate the response of plants to the stimuli of light, water, gravity and touch; identify the regions of growth in roots and shoots and the roles of auxins in tropism. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> relate the location of chitin, cartilage and bone to their supporting function; relate the structure and the general layout of the mammalian skeleton to their supportive, locomotive and respiratory function; differentiate types of joints using appropriate examples. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> apply the protective, supportive, locomotive and respiratory functions of the skeleton to the wellbeing of the animal;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>7. Reproduction</p> <p>a. A sexual reproduction</p> <ol style="list-style-type: none"> Fission as in <i>Paramecium</i> Budding as in yeast Natural vegetative propagation Artificial vegetative propagation. <p>b. sexual reproduction in flowering plants</p> <ol style="list-style-type: none"> Floral parts and their functions Pollination and fertilization products of sexual reproduction <p>c. Reproduction in mammals</p> <ol style="list-style-type: none"> structures and functions of the male and female reproductive organs Fertilization and development. (Fusion of gametes) <p>8. Growth</p> <p>a. meaning of growth</p> <p>b. Germination of seeds and condition necessary for germination of seeds.</p> <p>9. Co-ordination and control</p> <p>a. Nervous coordination:</p> <ol style="list-style-type: none"> the components, structure and functions of the central nervous system; The components and functions of the peripheral nervous systems; Mechanism of transmission of impulses; Reflex action 	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> differentiate between asexual and sexual reproduction; apply natural vegetative propagation in crop production and multiplication; apply grafting, budding and layering in agricultural practices. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> relate parts of flower to their functions and reproductive process; deduce the advantages of cross pollination; deduce the different types of placentation that develop into simple, aggregate, multiple and succulent fruits. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> differentiate between male and female reproductive organs; relate their structure and function to the production of offspring. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> describe the fusion of gametes as a process of fertilization; relate the effects of the mother's health, nutrition and indiscriminate use of drugs on the developmental stages of the embryo up to birth. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> apply the knowledge of the conditions necessary for germination on plants growth; differentiate between epigeal and hypogeal germination. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> apply the knowledge of the structure and function of the central nervous system in the coordination of body functions in organisms; illustrate reflex actions such as blinking of the eyes, knee jerk; etc.; differentiate between reflex and voluntary actions as well as conditioned reflexes such as salivation, riding a bicycle and swimming;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>b. The sense organs</p> <ul style="list-style-type: none"> i. skin (tactile) ii. nose (olfactory) iii. tongue (taste) iv. eye (sight) v. ear (auditory) <p>c. Hormonal control</p> <ul style="list-style-type: none"> i. animal hormonal system <ul style="list-style-type: none"> - Pituitary - thyroid - parathyroid - adrenal gland - pancreas - gonads ii. Plant hormones (phytohormones) <p>d. Homeostasis</p> <ul style="list-style-type: none"> i. Body temperature regulation ii. Salt and water regulation 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. associate the listed sense organs with their functions; ii. apply the knowledge of the structure and functions of these sense organs in detecting and correcting their defects. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. locate the listed endocrine glands in animals; ii. relate the hormone produced by each of these glands to their functions. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. examine the effects of various phytohormones (e.g. auxins, gibberellin, cytokinin, and ethylene) on growth, tropism, flowering, fruit ripening and leaf abscission. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. relate the function of hormones to regulating the levels of materials inside the body.

C: ECOLOGY

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>1. Factors affecting the distribution of Organisms</p> <ul style="list-style-type: none"> i. Abiotic 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. deduce the effects of temperature; rainfall, relative humidity, wind speed and direction, altitude, salinity, turbidity, pH and edaphic (soil) conditions on the distribution of organisms. ii. use appropriate equipment (e.g. sechi disc, thermometer, rain gauge etc) to measure abiotic factors.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>ii. Biotic</p> <p>2. Symbiotic interactions of plants and animals</p> <p>(a) Food chains, food webs and trophic levels (b) Energy flow in the ecosystem. (c) Nutrient cycling in nature i. carbon cycle</p> <p>ii. water cycle</p> <p>iii. Nitrogen cycle</p> <p>3. Natural Habitats</p> <p>(a) Aquatic (e.g. ponds, streams, lakes seashores and mangrove swamps)</p> <p>(b) Terrestrial/arboreal (e.g. tree-tops of oil palm, abandoned farmland or a dry grassy (savanna) field, and burrow or hole.</p> <p>4. Local (Nigerian) Biomes)</p> <p>a. Tropical rainforest</p>	<p>Candidates should be able to:</p> <p>i. describe how the activities of plants/animals (particularly human) affect the distribution of organisms.</p> <p>Candidates should be able to:</p> <p>i. determine appropriate examples of symbiosis, parasitism, saprophytism, comensalism, mutualism, amensalism, competition, predation and cooperation among organisms;</p> <p>ii. associate the distribution of organisms with food chains and food webs in particular habitats.</p> <p>Candidates should be able to:</p> <p>i. interpret the ecological pyramids of numbers, biomass and energy.</p> <p>Candidates should be able to:</p> <p>i. describe the cycle and its significance including the balance of atmospheric oxygen and carbon (IV) oxide.</p> <p>Candidates should be able to:</p> <p>i. assess the effects of water cycle on other nutrient cycles.</p> <p>Candidates should be able to:</p> <p>i. relate the roles of bacteria and leguminous plants in the cycling of nitrogen.</p> <p>Candidates should be able to:</p> <p>i. associate plants and animals with each of these habitats.</p> <p>Candidates should be able to:</p> <p>i. relate adaptive features to the habitats in which an organisms lives.</p> <p>Candidates should be able to:</p> <p>i. locate biomes to regions ii. apply the knowledge of the features of the listed local biomes in determining the characteristics of different regions of Nigeria.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>b. Guinea savanna (southern and northern)</p> <p>c. Sudan Savanna</p> <p>d. Desert</p> <p>e. Highlands of montane forests and grasslands of the Obudu, Jos, Mambilla Plateau.</p> <p>5. The Ecology of Populations:</p> <p>(a) Population density and overcrowding.</p> <p>(b) Factors affecting population sizes:</p> <p>i. Biotic (e.g. food, pest, disease, predation, competition, reproductive ability).</p> <p>ii. Abiotic (e.g. temperature, space, light, rainfall, topography, pressure, pH, etc.</p> <p>c. Ecological succession</p> <p>i. primary succession</p> <p>ii. secondary succession</p> <p>6. SOIL</p> <p>a) (i) characteristics of different types of soil (sandy, loamy, clayey)</p> <p>i. soil structure</p> <p>ii. porosity, capillarity and humus content</p> <p>iii. Components of the soil</p> <p>i. inorganic</p> <p>ii. organic</p> <p>iii. soil organisms</p> <p>b) Soil fertility:</p> <p>i. loss of soil fertility</p>	<p>Candidates should be able to:</p> <p>i. determine the reasons for rapid changes in human population and the consequences of overcrowding;</p> <p>ii. compute/calculate density as the number of organisms per unit area;</p> <p>iii. apply modern methods to control human population;</p> <p>Candidates should be able to:</p> <p>i. deduce the effect of these factors on the size of population.</p> <p>i. determine the interactions between biotic and abiotic factors, e.g. drought or scarcity of water which leads to food shortage and lack of space which causes increase in disease rates;</p> <p>Candidates should be able to:</p> <p>i. trace the sequence in succession to the climax stage of stability in plant population.</p> <p>Candidates should be able to:</p> <p>i. identify physical properties of different soil types based on simple measurement of particle size, porosity or water retention ability;</p> <p>ii. determine the amounts of air, water, humus and capillarity in different soil types experimentally.</p> <p>Candidates should be able to:</p> <p>i. relate soil characteristics, types and components to the healthy growth of plant.</p> <p>Candidates should be able to:</p> <p>i. relate such factors as loss of inorganic matter, compaction, leaching, erosion of the top soil and repeated cropping with one variety.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>ii. Renewal and maintenance of soil fertility</p> <p>7. Humans and Environment</p> <p>(a) Diseases:</p> <p>(i) Common and endemic diseases.</p> <p>ii. Easily transmissible diseases and disease syndrome such as:</p> <ul style="list-style-type: none"> - poliomyelitis - cholera - tuberculosis - sexually transmitted disease/syndrome (gonorrhea, syphilis, AIDS, etc. <p>b. Pollution and its control</p> <p>(i) sources, types, effects and methods of control.</p> <p>(ii) Sanitation and sewage</p>	<p>Candidates should be able to:</p> <p>i. apply the knowledge of the practice of contour ridging, terracing, mulching, poly-cropping, strip-cropping, use of organic and inorganic fertilizers, crop rotation, shifting cultivation, etc to enhance soil conservation.</p> <p>Candidates should be able to:</p> <p>i. identify ecological conditions that favour the spread of common endemic and potentially epidemic disease e.g. malaria, meningitis, drancunculiasis, schistosomiasis, onchocerciasis, typhoid fever and cholera etc.;</p> <p>ii. relate the biology of the vector or agent of each disease with its spread and control;</p> <p>Candidates should be able to:</p> <p>i. use the knowledge of the causative organisms, mode of transmission and symptoms of the listed diseases to their prevention/treatment/control.</p> <p>ii. apply the principles of inoculation and vaccination on disease prevention.</p> <p>Candidates should be able to:</p> <p>i. categorize pollution into air, water and soil pollution;</p> <p>ii. relate the effects of common pollutants to human health and environmental degradation;</p> <p>iii. determine the methods by which each pollutant may be controlled.</p> <p>Candidates should be able to:</p> <p>i. examine the importance of sanitation with emphasis on sewage disposal, community health and personal hygiene;</p> <p>ii. assess the roles and functions of international and national health agencies (e.g. World Health Organization (WHO), United Nations International Children Emergency Fund (UNICEF), International Red Cross Society (IRCS), and the ministries of health and environment.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
(c) Conservation of Natural Resources	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) apply the various methods of conservation of both the renewable and non-renewable natural resources for the protection of our environment for present and future generations; (ii) outline the benefits of conserving natural resources; (iii) identify the bodies responsible for the conservation of resources at the national and international levels (e.g. Nigerian Conservation Foundation (NCF), Federal Ministry of Environment, Nigeria National Parks, World Wildlife Foundation (WWF), International Union for Conservation of Nature (IUCN), United Nations Environmental Programme (UNEP) and their activities; (iv) assess their activities.
(I) Variation In Population <ul style="list-style-type: none"> a. Morphological variations in the physical appearance of individuals. <ul style="list-style-type: none"> (i) size (height, weight) (ii) Colour (skin, eye, hair, coat of animals, scales and feathers. (iii) Fingerprints b. Physiological variation <ul style="list-style-type: none"> (i) Ability to roll tongue (ii) Ability to taste phenylthiocarbamide (PTC) (iii) Blood groups 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. differentiate between continuous and discontinuous variations with examples; ii. relate the role of environmental conditions, habitat and the genetic constitution to variation. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i) measure heights and weight of pupils of the same age group; ii) plot graphs of frequency distribution of the heights and weights. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i) observe and record various colour patterns in some plants and mammals. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i) apply classification of fingerprints in identity detection. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i) identify some specific examples of physiological variation among human population; ii) categorize people according to their physiological variation.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>b. Application of discontinuous variation in crime detection, blood transfusion and determination of paternity.</p> <p>2. Heredity</p> <p>a) Inheritance of characters in organisms; i) Heritable and non-heritable characters.</p> <p>b) Chromosomes – the basis of heredity; (i) Structure (ii) Process of transmission of hereditary characters from parents to offspring.</p> <p>c) Probability in genetics and sex determination.</p> <p>a) Application of the principles of heredity in: i) Agriculture</p> <p>(ii) Medicine</p>	<p>Candidates should be able to:</p> <p>i) apply the knowledge of blood groups in blood transfusion and determination of paternity; ii) use discontinuous variation in crime detection.</p> <p>Candidates should be able to:</p> <p>i. determine heritable and non-heritable characters with examples.</p> <p>Candidates should be able to:</p> <p>i. illustrate simple structure of DNA</p> <p>Candidates should be able to:</p> <p>i. illustrate segregation of genes at meiosis and recombination of genes at fertilization to account for the process of transmission of characters from parents to offsprings.</p> <p>Candidates should be able to:</p> <p>i) deduce that segregation of genes occurs during gamete formation and that recombination of genes at fertilization is random in nature.</p> <p>Candidates should be able to:</p> <p>i. analyze data on cross-breeding experiments; ii. apply the principles of heredity in the production of new varieties of crops and livestock through cross-breeding; iii. deduce advantages and disadvantages of out-breeding and in-breeding; iv. analyze elementarily the contentious issues of genetically modified organisms (GMO) and gene therapy.</p> <p>Candidates should be able to:</p> <p>i) apply the knowledge of heredity in marriage counselling with particular reference to blood grouping, sickle-cell anaemia and the Rhesus factors.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
b. Sex – linked characters e.g. baldness, haemophilia, colour blindness, etc.	<p>ii) examine the significance of using recombinant DNA materials in the production of important medical products such as insulin, interferon and enzymes.</p> <p>Candidates should be able to:</p> <p>i) identify characters that are sex linked.</p>

E: EVOLUTION

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>1.) Adaptation for survival:</p> <p>a) Factors that bring about competition.</p> <p>b) Intra and inter-specific competition</p> <p>c) Relationship between competition and succession.</p> <p>2) Structural adaptations in organisms</p>	<p>Candidates should be able to:</p> <p>i) relate increase in population, diseases, shortage of food and space with intra- and inter-specific competition.</p> <p>Candidates should be able to:</p> <p>i) determine niche differentiation as a means of reducing intra-specific competition.</p> <p>Candidates should be able to:</p> <p>i) relate competition to succession.</p> <p>Candidates should be able to account for adaptation in organisms with respect to the following:</p> <p>i) obtaining food (beaks and legs of birds; mouthparts of insects, especially mosquito, butterfly and moth.)</p> <p>ii) protection and defence (stick insects, praying mantis and toad.</p> <p>iii) securing mates (redhead male and female Agama lizards, display of feathers by birds).</p> <p>iv. regulating body temperature (skin, feathers and hairs).</p> <p>v. conserving water (spines in plants and scales in mammals).</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>3) Adaptive colouration and its functions</p> <p>4) Behavioural adaptations in social animals</p> <p>5. Theories of evolution i) Lamarck's theory ii) Darwin's theory</p> <p>6. Evidence of evolution</p>	<p>Candidates should be able to:</p> <p>i. categorize countershading in fish, toads and snakes and warning colouration in mushrooms.</p> <p>Candidates should be able to:</p> <p>i.) differentiate various castes in social insects like termites and their functions in their colony/hive;</p> <p>ii.) account for basking in lizards, territorial behaviour of other animals under unfavourable conditions (hibernation and aestivation).</p> <p>Candidates should be able to:</p> <p>i.) relate organic evolution as the sum total of all adaptive changes that have taken place over a long period of time resulting in the diversity of forms, structure and functions among organisms.</p> <p>ii.) examine the contributions of Lamarck and Darwin to the theory of evolution.</p> <p>Candidates should be able to:</p> <p>i.) provide evidences for evolution such as fossil records, comparative anatomy, physiology and embryology;</p> <p>ii.) trace evolutionary trends in plants and animals;</p> <p>iii.) provide evidence for modern evolutionary theories such as genetic studies and the role of mutation.</p>

RECOMMENDED TEXTS

- Ambuna, A. Egunyomi, A. and Osakwe, J. (1990). *Comprehensive Certificate Biology for Senior Secondary Schools*: University Press Limited
- Egunyomi A. Bob – Manuel, Abdullahi B.A. and Oyetola O.A. (1988). *Exam Focus: Biology For WASSCE and JME 2nd Edition*, University Press Limited
- MacQueen J. and Murray J. (1978). *Success in Biology*, Benin: John Murray
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- Odunfa, S.A. (2001). *Essential of Biology*, Ibadan: Heinemann
- Oguniyi, M.B. Adebisi A.A. and Okojie J.A. (2000). *Biology for Senior Secondary Schools: Books 1 – 3*, Macmillan
- Ramalingam, S.T. (2005). *Modern Biology, SS Science Series. New Edition*, AFP
- Roberts, A.B.U. (1993). *Functional Approach in Biology*
- Sorojini, T.L. Sheila, P and Charles, T.P. (2000). *Modern Biology for Secondary Schools. Revised Edition*, FEP
- STAN. (2004). *Biology for Senior Secondary Schools. Revised Edition*, Ibadan: Heinemann
- Stone, R.H. and Cozens, A.B.C. (1982). *Biology for West African Schools*. Longman
- Usua, E.J. (1997). *Handbook of practical Biology 2nd Edition*, University Press, Limited
- Wisdomline Pass at Once JAMB.

GEOGRAPHY

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Geography is to prepare the candidates for the Board's examination. It is designed to test their achievement of the course objectives, which are to:

1. handle and interpret topographical maps, statistical data and diagrams and basic field survey;
2. demonstrate knowledge of man's physical and human environment and how man lives and earns a living on earth surface with special reference to Nigeria and Africa;
3. show understanding of the interrelationship between man and his environment;
4. apply geographical concepts, skills and principles to solving problems.

DETAILED SYLLABUS

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>I. PRACTICAL GEOGRAPHY</p> <p>a. Scale and measurement distances, areas reduction and enlargement, directions, bearings and gradients with reference to topographical maps.</p> <p>b. Map reading and interpretation; drawing of cross profiles, recognition of intervisibility, recognition and description of physical and human features and relationship as depicted on topographical maps.</p> <p>c. Interpretation of statistical data; maps and diagrams</p> <p>d. Elementary Surveying chain and prismatic, open and close traverse, procedure, problems, advantages and disadvantages.</p>	<p>Candidates should be able to:</p> <p>ai apply the different types of scale to distances and area measurement;</p> <p>ii apply the knowledge of scale to gradients, map reduction and enlargement;</p> <p>bi illustrate the relief of an area through profile drawing;</p> <p>ii interpret physical and human features from topographical maps.</p> <p>ci Compute quantitative information from statistical data, diagrams and maps,</p> <p>ii. interpret statistical data, diagrams and maps.</p> <p>di. analyse the principle and procedure of each technique;</p> <p>ii. compare the advantages of the two techniques.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>II. PHYSICAL GEOGRAPHY</p> <p>a. The earth as a planet</p> <p>i. The earth in the solar system, rotation and revolution;</p> <p>ii. The shape and size of the earth</p> <p>iii. Latitudes and distances, longitudes and time;</p> <p>iv. The structure of the earth (internal and external).</p> <p>b. Rocks</p> <p>i Types and characteristics</p> <p>ii Modes of formation</p> <p>iii Uses of rocks</p> <p>c Landforms</p> <p>i processes; earth movements (faulting, folding, earthquakes, volcanicity), erosion, transportation and deposition.</p> <p>ii Modifying agents; water (surface and Underground) wind and sea waves;</p> <p>iii Types of landforms associated with the Processes and agents specified above (Karst topography, plains fold mountains, faulted landforms, volcanic mountains, deltas, river terraces, barchans seifs and zeugens).</p> <p>d. Water Bodies</p> <p>i. Oceans and seas (world distribution, salinity and uses);</p>	<p>Candidates should be able to:</p> <p>ai identify the relative positions of the planets in the solar system;</p> <p>ii relate the effects of the rotation to the revolution of the earth;</p> <p>iii provide proof for the shape and size of the earth;</p> <p>iv differentiate between latitude and longitude;</p> <p>v relate latitude to calculation of distance;</p> <p>vi relate longitude to calculation of time;</p> <p>vii compare the internal and external components of the earth.</p> <p>bi differentiate between major types of rocks and their Characteristics;</p> <p>ii analyse the processes of formation and the resultant features;</p> <p>iii indicate the uses of rocks.</p> <p>ci distinguish between the internal and the external processes of landforms development;</p> <p>ii identify the agents of denudation;</p> <p>iii associate landforms with each process and agent.</p> <p>di locate oceans and seas on the globe;</p> <p>ii examine the characteristics and uses of Ocean and seas;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<ul style="list-style-type: none"> ii Ocean currents – types, distribution, causes and effects; iii Lakes – types, distribution and uses. 	<ul style="list-style-type: none"> iii classify the types of ocean currents; iv account for the distribution of ocean currents; v evaluate the causes and effects of ocean currents; vi identify the types and location of lakes; vii indicate the characteristics and uses of lakes
<p>e Weather and Climate</p> <ul style="list-style-type: none"> i Concept of weather and climate ii Elements of weather and climate iii Factors controlling weather and climate (pressure, air, mass, altitude, continentality and winds); iv Classification of climate (Greek and Koppen). v Major climate types (Koppen), their Characteristics and distribution. vi Measuring and recording weather parameters and instruments used. 	<ul style="list-style-type: none"> ei differentiate between weather and climate; ii differentiate between the elements of weather and climate; iii isolate the factors controlling weather and climate; iv compare Koppen's and Greek's classifications v identify the major types of climate according to Koppen; vii relate the weather instruments to their uses.
<p>f Vegetation</p> <ul style="list-style-type: none"> i Factors controlling growth of plants ii The concept of vegetation e.g. plant communities and succession iii Major types of vegetation, their characteristics and distribution, iv Impact of human activities on vegetation. 	<ul style="list-style-type: none"> fi trace the factors controlling the growth of plants; ii analyse the process of vegetation development; iii identify the types, their characteristics and distribution; iv assess the impact of human activities on vegetation;
<p>g Soils</p> <ul style="list-style-type: none"> i. Definition and properties ii. Factors and processes of formation iii. Soil profiles iv. Major tropical types, their characteristics, distribution and uses; 	<ul style="list-style-type: none"> gi classify soils and their ii. properties; ii. isolate the factors of formation; iii. differentiate between the different types of soil horizons and their characteristics;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>v. Impact of human activities on soils.</p> <p>h Environmental Resources;</p> <p>i Types of resources (atmospheric, land, soil, Vegetation and minerals);</p> <p>ii The concept of renewable and non-renewable resources;</p> <p>I Environmental interaction:</p> <p>i Land ecosystem</p> <p>ii Environmental balance and human interaction</p> <p>j Environmental: hazards</p> <p>i. Natural hazards (droughts, earth-quakes, volcanic eruptions, flooding)</p> <p>ii. Man-induced (soil erosion, Deforestation, pollution, flooding Desertification)</p> <p>iii. Effects, prevention and control of hazards.</p> <p>III. HUMAN GEOGRAPHY</p> <p>a. Population</p> <p>i. World population with particular reference to the Amazon Basin, N.E.</p>	<p>iv. compare the major tropical soil types and uses of soils;</p> <p>v. account for the distribution and uses of soils;</p> <p>vi. assess the impact of human activities on soils.</p> <p>hi. interpret the concept of environmental resources;</p> <p>ii. relate environmental resources to their uses;</p> <p>iii. differentiate between the concepts of renewable and non-renewable resources.</p> <p>Ii. identify the components of land ecosystem;</p> <p>ii. establish the interrelationship within the ecosystem;</p> <p>iii. interpret the concept of environmental balance;</p> <p>iv. analyse the effects of human activities on land ecosystem.</p> <p>ji identify the natural hazards and their causes</p> <p>ii. relate the human-induced hazards to their causes;</p> <p>iii. locate the major areas where they are common and their effects;</p> <p>iv. recommend possible methods of prevention and control.</p> <p>Candidates should be able to:</p> <p>ai. identify the characteristics of population (growth rates and structure);</p> <p>ii. determine the factors and the patterns of</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>U.S.A., India, Japan and the West Coast of Southern African.</p> <p>ii. Characteristics – birth and death rates, ages/sex structure.</p> <p>iii. Factors and patterns of population distribution;</p> <p>iv. Factors and problems of population growth;</p> <p>b. Settlement with particular reference to Western Europe, Middle East and West Africa;</p> <p>i. Types and patterns: Rural and Urban, Dispersed, nucleated and linear;</p> <p>ii. Rural settlement: classification, factors of growth and functions;</p> <p>iii. Urban settlement – classification, factors for growth and functions.</p> <p>iv. Problems of urban centres</p> <p>v. Interrelationship between rural and urban settlements.</p> <p>c. Selected economic activities</p> <p>i. Types of economic activities: primary, secondary and tertiary;</p> <p>ii. Manufacturing industries, types, locational factors, distribution and socio-economic importance and problems of industrialization in tropical Africa.</p> <p>iii. Transportation and Communication types, roles in economic development and communication in tropical Africa.</p> <p>iv. World trade-factors and pattern of world trade, major commodities (origin, routes and destinations).</p>	<p>population distribution;</p> <p>iii. identify the factors and problems of population growth;</p> <p>iv. relate the types of migration to their causes and effects;</p> <p>v. account for the ways population constitute a resource.</p> <p>bi differentiate between types of Settlements;</p> <p>ii. classify the patterns and functions of rural settlements;</p> <p>iii. classify the patterns and functions of urban settlement;</p> <p>iv. establish the interrelationship between rural and urban settlements;</p> <p>ci. identify the types of economic activities;</p> <p>ii. differentiate between the types of economic activities;</p> <p>iii. compare the types of manufacturing industries;</p> <p>iv. identify the factors of industrial location;</p> <p>iii. examine the socio-economic importance of manufacturing industries;</p> <p>iv. give reasons for the problems of industrialization in tropical Africa;</p> <p>v. differentiate between the types and means of transportation and communication;</p> <p>vi. assess the economic importance of</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>IV. REGIONAL GEOGRAPHY</p> <p>A. Nigeria</p> <p>a Broad outline</p> <p>i. Location, position, size, political division – (states) and peoples;</p> <p>ii Physical settling: geology, relief, landform, climate and drainage, vegetation and soils;</p> <p>iii Population: size, distribution, migration, (types, problems and effects);</p> <p>iv Natural Resources: types (minerals, soils, Water, vegetation etc) distribution, uses and Conservation;</p> <p>v. Agricultural Systems: the major crops produced, problems of agricultural development in Nigeria.</p> <p>vi. Manufacturing Industries: factors of location, types of products, marketing and problems associated with manufacturing;</p> <p>vii. Transportation and trade: modes of transportation and their relative advantages and disadvantages, regional and international trade.</p>	<p>transport and;</p> <p>vii. give reasons for the problems of transportation in tropical Africa;</p> <p>viii. relate the factors to the pattern of world trade.</p> <p>ix. classify the major commodities of trade in terms of their origins, routes and destination.</p> <p>Candidates should be able to:</p> <p>Ai describe the location, size and political Divisions of Nigeria.</p> <p>ii. identify the ethnic groups and their distributions;</p> <p>iii. relate the components of physical settings to their effects on human activities;</p> <p>iv. account for the pattern of population distribution;</p> <p>v. examine the types of migration, their problems and effects;</p> <p>vi. identify the types of natural resources and their distribution;</p> <p>vii. indicate their uses and conservation;</p> <p>viii. compare the farming systems practiced in Nigeria;</p> <p>ix. identify the crops produced and the problems encountered;</p> <p>x. identify the types and location of the major manufacturing industries;</p> <p>xi. determine the factors of industrial location and the problems associated with the industries;</p> <p>xii. establish the relationship between transport and trade;</p> <p>xiii. relate the modes of transportation to their relative advantages and</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>b. Geographical Regions of Nigeria</p> <p>i Eastern Highlands;</p> <p>ii Eastern Scarpland;</p> <p>iii Northern Central Highland</p> <p>iv Western Highlands;</p> <p>v Sokoto Plains;</p> <p>vi. Niger-Benue trough;</p> <p>vii. Cross River Basin;</p> <p>viii Southern Coastland each region analysed under the following sub-headings: physical setting (relief, drainage etc) people, population and settlements, modes of exploitation of natural resources, transportation and problems of development.</p> <p>B. The Rest of Africa:</p> <p>a Africa on broad outline;</p> <p>i Location, size, position, political settings (relief, drainage, climate type, Vegetation type etc).</p> <p>ii. Distribution of major minerals</p> <p>b Selected Topics</p> <p>i Lumbering in equatorial Africa with particular reference to Cote d'voire (Ivory Coast) and the Democratic Republic of Congo.</p> <p>ii Irrigation Agriculture in the Nile and Niger Basin;</p>	<p>disadvantages;</p> <p>xiv. classify the major commodities of regional and international trade;</p> <p>bi. Identify each geographical region and its distinctive features;</p> <p>ii. identify the people of each region and the settlement pattern;</p> <p>iii. account for the mode of resource exploitation in each region;</p> <p>iv. examine the modes and problems of transportation in each region;</p> <p>v. give reasons for the problem of development in each region;</p> <p>vi. Suggest solutions.</p> <p>ai. Identify the location, size and political Division of Africa;</p> <p>ii. relate the components of the physical setting to the effect on human activities;</p> <p>iii describe the distribution of major minerals.</p> <p>bi analyse the factors that favour the Development of lumbering in the identified areas;</p> <p>ii. examine the methods and problem lumbering;</p> <p>iii. assess the economic importance of lumbering;</p> <p>iv. account for the reason for irrigation in the area;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>iii Plantation Agriculture in West and East Africa</p> <p>iv Fruit Farming in the Mediterranean Regions of Africa.</p> <p>v Mineral Exploitation</p> <ul style="list-style-type: none"> - Gold mining in South Africa - Copper mining in the Democratic Republic of the Congo - Crude oil production in Algeria and Libya <p>vi Population Distribution in West Africa</p> <p>vii International Economic Cooperation in West Africa, e.g. ECOWAS</p>	<p>v. compare the methods and major crops produced;</p> <p>vi. identify the problems associated with irrigation in the area;</p> <p>vii account for plantation agriculture and its requirements;</p> <p>viii. relate the methods of management to the crops produced;</p> <p>ix assess the economic importance of plantation agriculture;</p> <p>x identify the conditions that favour fruit farming in the area;</p> <p>xi relate the major areas of fruit farming to types of fruits produced;</p> <p>xii assess the economic importance and problems associated with fruit farming in the area;</p> <p>xiii proffer solutions to the problems;</p> <p>xiv identify the area of production and the method of mining each mineral in the specified country;</p> <p>xv relate the economic importance of the mineral to the region;</p> <p>xvi determine the problems of associated with the exploitation of the mineral in each country;</p> <p>xvii account for the pattern of population distribution in West Africa;</p> <p>xviii indicate the factors influencing the pattern of distribution;</p> <p>xix identify the member countries;</p> <p>xx examine the objectives for which ECOWAS was established;</p> <p>xxi evaluate the prospect and problems of the organization</p>

RECOMMENDED TEXTS

- Adeleke, B.O. and Leong, G.C. (1999). *Certificate Physical and Human Geography* (West African Edition), Ibadan: Oxford.
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- Bunet, R.B and Okunrotifa, P.O. (1999). *General Geography in Diagrams for West Africa*, China: Longman.
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- Nimaku, D.A. (2000). *Map Reading of West Africa*, Essex: Longman.
- Okunrotifa, P.O. and Michael S. (2000). *A Regional Geography of Africa (New Edition)*, Essex: London.
- Udo, R.K (1970). *Geographical Regions of Nigeria*, London: Longman.
- Waugh, D. (1995). *Geography an Integrated Approach (Second Edition)*, China: Nelson
- Wisdomline Pass at Once JAMB.

COMMERCE

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Commerce is to prepare the candidates for the Board's examination. It is designed to test their achievement of the course objectives, which are to:

- (1) acquire the basic concepts of Commerce;
- (2) examine the relationship between Commerce and other related business subjects;
- (3) apply the principles of Commerce in Nigeria;
- (4) appreciate modern, dynamic and positive changes in commercial activities.

DETAILED SYLLABUS

TOPICS/CONTENTS/NOTES	OBJECTIVES
1. Commerce (i) Meaning (ii) Functions	Candidates should be able to: (i) differentiate between Commerce and other related subjects; (ii) identify the functions of Commerce.
2. Occupation (i) Meaning (ii) Types (industrial, commercial and services)	Candidates should be able to: (i) compare the different types of occupation.
3. Production (i) Meaning (ii) Factors, characteristics and rewards (land, labour, capital and entrepreneur) (iii) Division of Labour (iv) Specialization (v) Types (primary, secondary and tertiary)	Candidates should be able to: (i) differentiate between production and its factors; (ii) identify the factors of production and their rewards; (iii) distinguish between Division of Labour and specialization; (iv) classify the types of production.
4. Trade (i) Meaning (ii) Classification:	Candidates should be able to: (i) identify the classes of trade; (ii) compare the various types of retailers;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>a. Home Trade</p> <p>(i) Retail trade</p> <ul style="list-style-type: none"> - types of retailers - functions of retailers - trends in retailing (branding, self service, vending machines, the use of luncheon and fuel vouchers) - advantages and disadvantages of retailers <p>(ii) Wholesale trade</p> <ul style="list-style-type: none"> - Types of wholesalers (merchant, agent and general) - Functions of wholesalers - Advantages and disadvantages of wholesalers <p>b. Foreign trade</p> <p>(i) Basic issues in foreign trade (balance of trade visible and invisible, balance of payments and counter trade)</p> <p>(ii) Procedures and documents used in export, import and entrepot trade</p> <p>(iii) Barriers to international trade.</p> <p>5. Purchase and Sales of Goods</p> <p>(i) Procedure and documentation (enquiry, quotation, order, invoice, proforma invoice, statement of accounts, indent, consular invoice, bill of lading, certificate of origin, consignment note, etc)</p> <p>(ii) Terms of trade (trade discount, quantity discount, cash discount, warranties, C.O.D., C.I.F., F.O.B., and E.O.E.)</p> <p>(iii) Terms of payments</p> <ol style="list-style-type: none"> Cash – Legal tender Credit <ul style="list-style-type: none"> - Meaning - Types and functions - Merits and demerits 	<p>(iii) identify the functions of retailers;</p> <p>(iv) classify modern retailing practices;</p> <p>(v) identify the advantages of retail business and its disadvantages;</p> <p>(vi) classify the types of wholesalers;</p> <p>(vii) determine the functions of wholesalers to manufacturers and retailers;</p> <p>(viii) analyse the merits and demerits of the existence of the middleman;</p> <p>(ix) analyse the basic issues in foreign trade;</p> <p>(x) differentiate between visible and invisible balance of trade;</p> <p>(xi) distinguish the procedures from the documents used in foreign trade;</p> <p>(xii) identify the barriers to international trade.</p> <p>Candidates should be able to:</p> <p>(i) examine the procedures and documents used in the purchase and sale of goods;</p> <p>(ii) determine the terms of trade;</p> <p>(iii) distinguish between cash and credit forms of payment;</p> <p>(iv) identify the types of credit;</p> <p>(v) analyse the merits and demerits of credit transactions.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>6. Aids-to-trade</p> <p>a. Advertising</p> <p>(i) Types and media</p> <p>(ii) Advantages and disadvantages</p> <p>b. Banking</p> <p>(i) Types of banks</p> <p>(ii) Services</p> <p>(iii) Challenges</p> <p>c. Communication</p> <p>(i) Process</p> <p>(ii) Types</p> <p>(iii) Trends</p> <p>(iv) Merits and demerits</p> <p>(v) Barriers</p> <p>d. Insurance</p> <p>(i) Types</p> <p>(ii) Principles</p> <p>(iii) Terms</p> <p>(iv) Benefits</p> <p>e. Tourism</p> <p>(i) Terms</p> <p>(ii) Benefits</p> <p>(iii) Challenges</p> <p>f. Transportation</p> <p>(i) Importance</p> <p>(ii) Forms/mode</p> <p>(iii) Advantages and disadvantages</p> <p>(iv) Regulatory agencies</p> <p>g. Warehousing</p> <p>(i) Importance</p> <p>(ii) Types</p> <p>(iii) Functions</p> <p>(iv) Location</p>	<p>Candidates should be able to:</p> <p>(i) distinguish between advertising and advertisement;</p> <p>(ii) identify the different types of advertising and its media;</p> <p>(iii) analyse the advantages and disadvantages of advertising;</p> <p>(iv) categorize the different types of banks;</p> <p>(v) assess the roles of western union, moneygram and automated teller machine (ATM) in business transactions;</p> <p>(vi) identify the services rendered by banks;</p> <p>(vii) appraise the various means of payments;</p> <p>(viii) apply acquired banking knowledge in solving challenges facing banks;</p> <p>(ix) specify the different stages in the communication process;</p> <p>(x) analyse the types of communication;</p> <p>(xi) differentiate between the demerits of and barriers to communication;</p> <p>(xii) appraise the contributions of courier services, GSM, etc., to businesses.</p> <p>(xiii) distinguish between the types of insurance;</p> <p>(xiv) apply the principles of insurance to life situations;</p> <p>(xv) appraise the relevance of the National Health Insurance Scheme (NHIS);</p> <p>(xvi) identify the relevant terms in tourism;</p> <p>(xvii) differentiate between the benefits and challenges of tourism;</p> <p>(xviii) appraise the relevance of the various forms of transportation;</p> <p>(xix) determine the advantages and disadvantages of transportation;</p> <p>(xx) compare and contrast the functions of Nigeria Airport Authority with Nigerian Ports Authority;;</p> <p>(xxi) evaluate the factors that determine the siting of warehouses;</p> <p>(xxii) appraise the contributions of private and public warehouses to businesses.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>7. Business Units</p> <ul style="list-style-type: none"> (i) Forms of ownership (ii) Characteristics/features (iii) Registration of businesses (iv) Business Mergers (v) Determination of choice of business units (vi) Dissolution and liquidation of businesses 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) identify the different forms of business units; (ii) analyse the features of the forms of business units; (iii) apply the knowledge of the procedures and documents gained in registering businesses; (iv) appraise the different forms of business mergers and the reasons for merging; (v) analyse the factors which determine the choice of business units; (vi) differentiate between the dissolution and liquidation of business.
<p>8. Financing Business</p> <ul style="list-style-type: none"> (i) Sources of finance (personal savings, sale of shares and bonds, loans, debentures, mortgage, bank overdraft, ploughing back of profit, credit purchase, leasing) (ii) Problems of sourcing finance (iii) Types of capital (share capital, capital owned, authorized (registered or nominal) capital, issued capital, called-up capital, paid-up capital, liquid capital, working capital and owners' equity) (iv) Calculation of forms of capital, profits (gross and net) and turnover (v) Bureaux de change 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) identify the various ways of financing a business; (ii) appraise the problems associated with sourcing finances for business; (iii) determine the different types of capital; (iv) compute the different forms of capital, profits and turnover; (v) assess the role of bureaux de change in assisting businesses.
<p>9. Trade Associations</p> <ul style="list-style-type: none"> (i) Objectives and functions of trade associations (e.g. Cocoa Farmers' Association, Garri Sellers' Association, Poultry Farmers' Association) (ii) Objectives and functions of consumer association (e.g. thrift, credit and loans) (iii) Objectives and functions of Chambers of Commerce (e.g. NACCIMA) 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) differentiate between the objectives and functions of trade associations; (ii) analyse the objectives and functions of consumer association; (iii) evaluate the objectives and functions of Chambers of Commerce.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>10. Money</p> <ul style="list-style-type: none"> (i) Evolution (ii) Forms (iii) Qualities/characteristics (iv) Functions 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) trace the origin of money; (ii) categorize the forms and qualities of money; (iii) appraise the functions of money.
<p>11. Stock Exchange</p> <ul style="list-style-type: none"> (i) Importance and functions (ii) Procedure of transactions and speculations (iii) Types of securities (stocks, shares, bonds, debentures, etc) (iv) Second-Tier Securities Market (STSM), listing requirements, types of companies for the market, advantages and operating regulations of the market. 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) determine the importance and functions of the Stock Exchange; (ii) analyse the procedure of transactions and speculation on the Stock Exchange; (iii) classify the different securities traded on the Stock Exchange; (iv) apply the knowledge acquired on the Stock Exchange for investment purposes.
<p>12. Elements of Business Management</p> <ul style="list-style-type: none"> (i) Functions (planning, organizing, staffing, coordinating, motivating, communicating and controlling) (ii) Principles (span of control, unity of command, delegation of authority, etc) (iii) Organizational structure (line, line and staff, functional, matrix and committee) (iv) Functional areas of business (production, marketing, finance and personnel) 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) appraise the functions of management; (ii) apply the principles of management to business and other situations; (iii) interpret various organizational structures; (iv) assess the functional areas of business.
<p>13. Elements of Marketing</p> <ul style="list-style-type: none"> (i) Functions and Importance (ii) The marketing concept (consumer orientation, customer satisfaction and integrated marketing) (iii) Marketing mix (product, price, place (distribution and promotion) (iv) Market Segmentation (v) Customer Service. 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) distinguish between the functions and importance of marketing; (ii) relate the marketing concept to different situations; (iii) evaluate the elements of marketing mix and channels of distribution; (iv) determine the basis for segmentation; (v) appraise the quality of customer service.
<p>14. Legal Aspects of Business</p> <ul style="list-style-type: none"> (i) Meaning and validity of a simple contract (ii) Contract Agency, Sale of Goods Acts and Hire Purchase Act (iii) Rights and obligations of employer and employee 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) analyse the elements of the validity of a simple contract; (ii) interpret Contract Agency, Sale of Goods Acts and Hire Purchase Acts; (iii) compare the rights and obligations of employers with those of employees;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<ul style="list-style-type: none"> (iv) Government regulations of business – registration of business, patents, trade marks and copyrights (v) Consumer protection – need for, and means of protection (Government legislation, Foods and Drugs Act, Standards Organization Act, Trade Descriptions Act, Consumer Association, Consumer Protection Council, NAFDAC, NDLEA, Customs and Excise, etc.) 	<ul style="list-style-type: none"> (iv) distinguish between patents, trade marks and copyrights; (v) identify the functions of consumerism; (vi) assess the relevance of Government Agencies and Acts in the provision of safe goods and drugs.
<p>15. Information and Communication Technology (ICT)</p> <ul style="list-style-type: none"> a. Computer <ul style="list-style-type: none"> (i) Appreciation/application (ii) Types (iii) Functions (iv) Advantages and disadvantages (v) Challenges b. Terms (Internet, Intranet, browsing, password, e-mail, google, yahoo, search, cyber café, Local Area Network, etc.) c. Activities <ul style="list-style-type: none"> (i) e-commerce (ii) e-banking (iii) e-business 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) apply the knowledge gained from computer to solve problems; (ii) determine the types and functions of computer; (iii) appraise the challenges of using the computer in order to take precautionary measures; (iv) identify the different terms used in ICT; (v) analyse the merits and demerits of each activity.
<p>16. Business Environment and Social Responsibility</p> <ul style="list-style-type: none"> (i) Legal, political, economic, social, cultural, technological environment, etc (ii) Safe products, philanthropic and social environment and societal consideration (iii) Types of pollution (water, air and land) and their implications. 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) classify the types of business environment; (ii) assess the role of social environment in the provision of safe products; (iii) identify the different types of pollution; (iv) assess their implications on business.

RECOMMENDED TEXTS

- Anderson, D. J. (1978). *Commerce for West Africa*, London: Macmillan.
- Ahukannah, L. I. names(s)? (1992). *Commerce for Secondary Schools*
Onitsha: Africana – First Publishers.
- Asaolu, A. and Igwe, P. M. (2005). *New Syllabus Commerce for Secondary Schools Books 1 – 3 (Second Edition)* Ibadan: Evans.
- Babatunde, A. H. (1999). *Handbook on Commerce for Schools and College, (First Edition)*, Global Publications.
- Eriki, P. O. (1998). *Working with Computer*, Benin: Bofic Publishers.
- French, C. S. (2000). *Computer Science, (Fifth Edition)*, Britain: Ashford.
- Ibru, G. M. (2004). *Nigeria: The Promise of Tourism*, Lagos: G.S.L. Publishing Limited.
- Igwe, P. M. names(s)? (2004). *Countdown to WASSCE/SSCE/NECO/JME Commerce*, Ibadan: Evans.
- James, A. F, names(s)? (1996). *Management, (Sixth Edition)*, New Delhi: Prentice Hall).
- Nwachukwu, C. C. (1999). *Management Theory and Practice*, Onitsha: Africana – FIRST Publishers.
- Odedokun, M. Onames(s)? (1999). *Commerce for Senior Secondary School, Books 1 – 3*, Lagos: Longman.
- Odoom, F. F. (1998). *Commerce for Senior Secondary School, Books 1 – 3*, Ibadan: Onibonoje.
- Onifade, A. (2001). *Management: Office Business Education*, Abeokuta: KAPPCO.
- Onifade, A. (2002). *The Computer for Word Processing and Internet*, Abeokuta: KAPPCO.
- Onu, A. J. C. (2000). *Marketing Today*, Abuja: Precious Treasures Ltd.
- Pallister, J. and Isaacs, A. (eds) (2002). *A Dictionary of Business (Third Edition)*, Oxford: Oxford University Press.
- Wisdomline Pass at Once JAMB.

GOVERNMENT

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Government is to prepare the candidates for the Board's examination. It is designed to test their achievement of the objectives of the course in Government.

These objectives are to:

- i. appreciate the meaning of government;
- ii. analyse the framework and specify the institutions of government;
- iii. explain the concept of citizenship and define the duties and obligations of a citizen;
- iv. appreciate the process of political development;
- v. evaluate the political development and problems of governance in Nigeria;
- vi. assess the role of Nigeria as a member of the international community and the workings of international organizations.

DETAILED SYLLABUS

PART 1: ELEMENTS OF GOVERNMENT

TOPICS/CONTENTS/NOTES	OBJECTIVES
1. Basic concepts in government a. Power, Right, Legitimacy, Authority, Sovereignty; b. Society, State, Nation, Nation-State; c. Political Processes Political Socialization, Political Participation, Political Culture.	Candidates should be able to: i. identify the fundamental concepts in governance; ii. analyse various political processes;
2. Forms of Government: Monarchy, Aristocracy, Oligarchy, Autocracy, Republic, Democracy-definitions, features, merits and demerits.	Candidates should be able to: i. distinguish between different forms of government.
3. Arms of Government: a. The Legislature – types, structure, functions, powers; b. The Executive – types and functions, powers; c. The Judiciary – functions, powers, components.	Candidates should be able to: i. identify the duties and obligations of the various arms of government and their agencies; ii. relate each arm to its functions.
4. Structures of Governance: Unitary, Federal, Confederal-features, reasons for adoption, merits and demerits.	Candidates should be able to: i. compare the various political structures of governance.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>5. Systems of Governance: Presidential, Parliamentary and Monarchical.</p> <p>6. Political Ideologies: Communalism, Feudalism, Capitalism, Socialism, Fascism, Communism</p> <p>7. Constitution Written, Unwritten, Rigid and Flexible.</p> <p>8. Principles of Democratic Government: Ethics and Accountability in Public Office, Separation of Power/Checks and Balances, Individual and Collective Responsibility, Constitutionalism, Rule of Law.</p> <p>9. Processes of Legislation: Legislative Enactment – acts, edicts, delegated legislation, decrees.</p> <p>10. Citizenship:</p> <ol style="list-style-type: none"> Meaning, types Citizenship rights; Duties and obligations of citizens. <p>11. The Electoral Process: Franchise, Election, Electoral System, Electoral Commission.</p> <p>12. Party Systems:</p> <ol style="list-style-type: none"> Definition, function and types Political parties – Definition, Organization, functions. <p>13. Pressure Groups: Definition, types, functions and modes of operation.</p> <p>14. Public Opinion: Meaning, functions and measurement.</p> <p>15. The Civil Service: Definition, characteristics, functions, structure, control and problems.</p>	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> distinguish between the different systems of governance. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> differentiate between the major political ideologies; contrast modes of production, <p>Candidates should be able to:</p> <ol style="list-style-type: none"> compare the nature of constitutions <p>Candidates should be able to:</p> <ol style="list-style-type: none"> identify the principles of democratic government; determine the application of these principles; <p>Candidates should be able to:</p> <ol style="list-style-type: none"> analyse the processes involved in the making of laws. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> differentiate between the various types of citizenship; specify the rights and responsibilities of a citizen. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> analyse the various electoral processes. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> distinguish between types of party system; assess the role of political parties <p>Candidates should be able to:</p> <ol style="list-style-type: none"> distinguish between pressure groups and political parties <p>Candidates should be able to:</p> <ol style="list-style-type: none"> assess the function of public opinion; compare methods of assessing public opinion. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> analyse the significance of civil service in governance.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p align="center">PART II POLITICAL DEVELOPMENT IN NIGERIA</p> <p>1. Pre – colonial Polities: Sarauta, Emirate, Tiv, Igbo, Yoruba – structure/system of governance</p> <p>2. Imperialist Penetration:</p> <ol style="list-style-type: none"> The British process of acquisition – trade, missionary activities, company rule, crown colony, protectorate; The British colonial administrative policy – direct and indirect rule; Impact of British colonial rule-economic, political, socio-cultural; Comparison of British and French colonial administration. <p>3. Process of Decolonization</p> <ol style="list-style-type: none"> Nationalist Movements – meaning, emergence, goals, strategies, nationalist leaders – Herbert Macaulay, Nnamdi Azikiwe, Obafemi Awolowo, Ahmadu Bello and others; emergence of nationalist parties. Influence of External factors; Constitutional development – the Clifford (1922), Richards (1946), Macpherson (1951), Lyttelton (1954) and Independence (1960) Constitutions. <p>4. Post – Independence Constitutions 1963, 1979, 1989 and 1999 – characteristics and shortcomings</p> <p>5. Institutions of Government in the Post – Independence period; The Legislature, the Executive and the Judiciary – structure, functions and workings</p> <p>6. Public Commissions Established by the 1979 and Subsequent Constitutions: The Civil Service Commission, the Public Complaints Commission, Electoral Commissions and others – objectives and functions.</p>	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> compare pre-colonial systems of governance <p>Candidates should be able to:</p> <ol style="list-style-type: none"> trace the processes of imperialist penetration; assess the impact of British policies; distinguish between British and French colonial practices. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> evaluate the process of decolonization; assess the roles of nationalist leaders and parties; assess the impact of external forces and ideas (Pan-Africanism, Back-to-Africa Movements, etc), compare the various constitutional developments. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> assess the workings of the various constitutions. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> evaluate the operations of the arms of government and their agencies, e.g the civil service, armed forces, police, courts and others. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> evaluate the operations of public commissioners; assess the problems of, and constraints on the public commissions. the public commissions.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>7. Political Parties in the Post-Independence Period: Political parties, party politics – First, Second, Third and Fourth Republics.</p> <p>8. The Structure and Workings of Nigerian Federalism:</p> <ol style="list-style-type: none"> Rationale for a Federal System Tiers of government and their relationship Creation of States – 1963, 1967, 1976, 1987, 1991, 1996; Problems of Nigerian Federalism – census, revenue allocation, conflicts etc. solutions e.g. Federal character, etc. <p>9. Public Corporations and Parastatals</p> <ol style="list-style-type: none"> Definition, types, purpose and functions Finance, control and problems; Deregulation, privatization – objectives, features, merits and demerits; Comparison between public corporations and parastatals. <p>10. Local Government:</p> <ol style="list-style-type: none"> Local government administration prior to 1976; Features of local government reforms (1976, 1989) – structure, functions, finance and inter-governmental relations; Traditional rulers and local governments. <p>11. The Military in Nigerian Politics</p> <ol style="list-style-type: none"> factors that led to military intervention; structure of military regimes; impact of military rule – political, e.g creation etc. economic, e.g SAP, etc. processes of military disengagement. 	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> contrast political process in the republics. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> examine the workings of Nigerian federalism; identify its problems; evaluate the corrective measure adopted. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> examine the operations of public corporations and parastatals; identify the processes involved in privatization and commercialization; assess the economic importance of privatization and commercialization. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> trace the evolution and structure of local government; identify the major problems faced by local governments. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> evaluate the reasons given for military intervention; asses the achievements of military rule; determine the conditions that necessitated withdrawal from governance.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>PART III: NIGERIA AND THE INTERNATIONAL COMMUNITY</p> <p>1. Foreign Policy:</p> <ol style="list-style-type: none"> Definition, purpose, determining factors; Nigerian foreign policy; <ol style="list-style-type: none"> Relations with major powers; Relations with developing countries. <p>2. Relations with African Countries:</p> <ol style="list-style-type: none"> Africa as “centre piece” – guiding principles, implementation and implications; NEPAD – origin, objectives and implications. <p>3. Nigeria in International Organizations</p> <ol style="list-style-type: none"> The United Nations; The Commonwealth; The Organization of African Unity; The African Union; The Economic Community of West African States (ECOWAS); The Organization of Petroleum Exporting Countries (OPEC). <p>PART IV: INTERNATIONAL ORGANIZATIONS:</p> <p>1. International Organizations:</p> <ol style="list-style-type: none"> ECOWAS; OAU, AU; Commonwealth; UNO; OPEC; <ul style="list-style-type: none"> Origin, objectives, structure, functions, achievements, problems and prospects of these organizations. 	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> identify the major objectives of Nigerian foreign policy; analyse Nigeria’s aligned posture; <p>Candidates should be able to:</p> <ol style="list-style-type: none"> evaluate the role of Nigeria in continental affairs; assess the role of NEPAD in developing Africa. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> analyse the dynamics of Nigeria’s involvement in international organizations; assess their contribution to the development of Nigeria. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> identify international organizations; assess the role of these organizations in world affairs.

RECOMMENDED TEXTS

- Adigwe, F (1985). *Essentials of Government for West Africa*, Ibadan: University Press Plc.
- Anifowose, R and Enemu, F. C (eds)(1999). *Elements of Politics*, Lagos; Malthouse Press Limited.
- Appadorai, A. (1978). *The Substance of Politics*, London: Oxford University Press.
- Ball, A. R. (1983). *Modern Politics and Government*, London: macmillan.
- Ikein, A. A. (1990). *The Impact of Oil on a Developing Country, The Case of Nigeria*, Ibadan; Evans.
- Ofoegbu, R. (1977). *Government for the Certificate Year*, London: George Allen and Unwin.
- Ojiako, J. O. (1981). *Nigeria Yesterday, Today and _____ ?* Onitsha: Africana Educational Publishers (Nig.) Ltd.
- Olawale, J. B (1987). *New Topics on Ordinary Level Government*, Ilesha: Jola Publishing.
- Omolewa, M. (1991). *A Certificate History of Nigeria*, Ibadan: Longman.
- Oyediran, O. Nwosu, H., Takaya, B., Anifowoshe, R., Femi, B., Godwill, O. and Adigun, A. (1990). *Government for Senior Secondary Schools, Books 1, 2 and 3*, Ibadan: Longman.
- Oyeneye, I., Onyenwenu, M. and Olusunde, B. E. (2000). *Round-Up Government for Senior Secondary School Certificate Examination: A complete Guide*, Ibadan: Longman.
- Oyovbaire, S., Oguna, A. E. C., Amucheazi, E. C., Coker, H. o. and Oshuntuyi, O. (2001). *Countdown to Senior Secondary Certificate Examination: Government*, Ibadan: Evans.

ECONOMICS

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Economics is to prepare the candidates for the Board's examination. It is designed to test their achievement of the course objectives, which are to:

1. demonstrate sufficient knowledge and understanding of the basic concepts, tools and their general applications to economic analysis;
2. identify and explain the basic structure, operations and roles of the various economics units and institutions (national and international);
3. describe major economic activities – production, distribution and consumption;
4. identify and appraise the basic economic problems of society;
5. develop the competence to proffer solutions to economic problems.

DETAILED SYLLABUS

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>1. Economics as a science</p> <p>a. Basic Concepts: Wants, Scarcity, choice, opportunity cost, Rationality, production, distribution, consumption etc</p> <p>b. Economic problems of: what, how and for whom to produce</p> <p>2. Economic Systems</p> <p>a. Types: free enterprise, centrally planned and mixed economies</p> <p>b. Solutions to economic problems under different systems</p> <p>c. Contemporary issues in economic systems (e.g. economic reforms, deregulation etc)</p>	<p>Candidates should be able to:</p> <p>(i) compare various concepts in economics and their applications;</p> <p>(ii) interpret graphs/schedules in relation to the concepts;</p> <p>(iii) identify economic problems;</p> <p>(iv) proffer solutions to economic problems</p> <p>Candidates should be able to:</p> <p>(i) compare the various economic systems;</p> <p>(ii) apply the knowledge of economic systems to contemporary issues in Nigeria;</p> <p>(iii) proffer solutions to economic problems in different economic systems.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>3. Methods of Economic Analysis</p> <p>a. Scientific Approach:</p> <ol style="list-style-type: none"> inductive and deductive methods positive and normative reasoning <p>b. Basic Tools</p> <ol style="list-style-type: none"> tables, charts and graphs measures of central tendency: mean, median and mode, and their applications. measures of dispersion; variance, standard deviation, range and their applications; merits and demerits of the tools. 	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> distinguish between the various forms of reasoning; apply these forms of reasoning to real life situations; use the tools to interpret economic data; analyse economic data using the tools; assess the merits and demerits of the tools.
<p>4. The Theory of Demand</p> <p>a. <ol style="list-style-type: none"> meaning and determinants of demand demand schedules and curves the distinction between change in quantity demanded and change in demand. </p> <p>b. Types of demand: Composite, derived, competitive etc</p> <p>c. Elasticity of demand: determinants, measurements, nature and applications (e.g. revenue).</p> <p>d. Effects of changes in the determinants (price, income and cross elasticities).</p>	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> identify the factors determining demand; interpret demand curves from demand schedules; differentiate between change in quantity demanded and in demand; compare the various types of demand and their interrelationships; relate the determinants to the nature of elasticity; compute elasticities; interpret elasticity coefficients in relation to real life situations.
<p>5. The Theory of Consumer Behaviour</p> <p>a. Basic Concepts:</p> <ol style="list-style-type: none"> utility (cardinal, ordinal and marginal utilities) value in use and value in exchange indifference curve and budget line. 	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> appraise the various utility concepts; apply the law of demand using the marginal utility analysis; use indifference curve and marginal analyses to determine consumer equilibrium;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<ul style="list-style-type: none"> b. Diminishing marginal utility and the law of demand. c. Consumer equilibrium using the indifference curve and marginal analyses. d. Effects of shift in the budget line and the indifference curve. e. Consumer surplus and its applications. <p>6. The Theory of Supply</p> <ul style="list-style-type: none"> a. <ul style="list-style-type: none"> i. Meaning and determinants of supply ii. Supply schedules and supply curves iii. the distinction between change in quantity supplied and change in supply b. Types of Supply: Joint/complementary, competitive and composite c. Elasticity of Supply: determinants, measurements, nature and applications <p>7. The Theory of Price Determination</p> <ul style="list-style-type: none"> a. The concepts of market and price b. Functions of the price system c. <ul style="list-style-type: none"> i. Price determination under a free market ii. Price legislation and its effects d. The effects of changes in supply and demand on equilibrium price and quantity 	<ul style="list-style-type: none"> (iv) associate the income and substitution effects; (v) apply consumer surplus to real life situations. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) identify the factors determining supply; (ii) interpret supply curves from supply schedules; (iii) differentiate between change in quantity supplied and change in supply; (iv) compare the various types of supply and their interrelationships; (v) relate the determinants to the nature of elasticity; (vi) compute elasticity coefficients; (vii) interpret the coefficients in relation to real live situations. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) express the concepts of market and price; (ii) examine the functions of the price system; (iii) evaluate the effects of government interference with the price system; (iv) differentiate between minimum and maximum price legislation; (v) interpret the effects of changes in supply and demand on equilibrium price and quantity.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>8. The Theory of Production</p> <ul style="list-style-type: none"> a. Concepts of production and their interrelationships (TP, AP, MP and the law of variable proportion). b. Scale of Production: Internal and external economies of scale and their implications. c. Production functions and returns to scale d. Producers' equilibrium isoquant-isocost and marginal analyses. 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) relate TP, AP and MP with the law of variable proportion; (ii) compare internal and external economies of scale in production and their effects; (iii) identify the types of production functions (iv) compare the different types of returns to the scale and their implications; (v) determine the firm's equilibrium position using the isoquant-isocost and marginal analyses.
<p>9. Theory of Costs</p> <ul style="list-style-type: none"> a. The concepts of cost: Fixed, Variable Average and Marginal b. Accountants' and Economists' notions of cost c. Short-run and long-run costs d. The marginal cost and the supply curve of firm. 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) interpret the various cost concepts (ii) differentiate between accountants' and economists' notions of costs; (iii) interpret the short-run and long-run costs curves; (iv) establish the relationship between marginal cost and supply curve.
<p>10. Market Structure</p> <ul style="list-style-type: none"> a. Perfectly competitive market: <ul style="list-style-type: none"> i. Assumptions and characteristics; ii. Short-run and long-run equilibrium of a perfect competitor; b. Imperfect Market: <ul style="list-style-type: none"> i. Pure monopoly, discriminatory monopoly and monopolistic competition. ii. Short-run and long-run equilibrium positions. c. Break-even/shut-down analysis in the various markets. 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) analyse the assumptions and characteristics of a perfectly competitive market; (ii) differentiate between short-run and long-run equilibrium of a perfectly competitive firm; (iii) analyse the assumptions and characteristics of imperfect markets; (iv) differentiate between the short-run and long-run equilibria of imperfectly competitive firms; (v) establish the conditions for the break-even/shut down of firms.
<p>11. National Income</p> <ul style="list-style-type: none"> a. Concepts: GNP, GDP, NI etc b. National Income measurements and their problems 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) identify the major concepts in national income; (ii) compare the different ways of measuring national income;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<ul style="list-style-type: none"> c. Uses of national incomes estimates d. The circular flow of income (three-sector model) e. The multiplier concept. f. Elementary theory of income determination and equilibrium national income. 	<ul style="list-style-type: none"> (iii) examine their problems; (iv) assess the uses and limitations of national income estimates; (v) interpret the circular flow of income using the three-sector model; (vi) calculate the multipliers; (vii) evaluate their effects on equilibrium national income.
12. Money and Inflation	Candidates should be able to:
<ul style="list-style-type: none"> a. Types and functions of money b. Demand for money and the supply of money c. Quantity Theory of money (Fisher equation) d. Inflation: Types, measurements, effects and control 	<ul style="list-style-type: none"> (i) differentiate between the types and functions of money; (ii) determine the factors affecting the demand for and the supply of money; (iii) identify the components in the quantity theory of money; (iv) examine the causes and effects of inflation; (v) calculate the consumer price index; (vi) interpret the consumer price index; (vii) examine ways of controlling inflation.
13. Banking	Candidates should be able to:
<ul style="list-style-type: none"> a. Types and functions of banks b. The creation of money c. Challenges facing the banking industry in Nigeria (reforms, consolidation) d. The role of banks in economic development e. Monetary policy and its instruments. 	<ul style="list-style-type: none"> (i) compare the types of banks and their functions; (ii) trace the money-creation process and factors affecting it; (iii) appraise the challenges facing the banking industry; (iv) examine the role of banks in economic development; (v) examine the various monetary policy instruments and their effects.
14. Public Finance	Candidates should be able to:
<ul style="list-style-type: none"> a. Meaning and objectives b. Sources of government revenue (taxes royalties, etc) c. Principles of taxation d. The effects of public expenditure e. Government budget and public debts f. Revenue allocation and resource control in Nigeria 	<ul style="list-style-type: none"> (i) identify the objectives of public finance; (ii) compare the various sources of government revenue; (iii) analyse the principles of taxation; (iv) examine the effects of public expenditure on the economy; (v) examine the types and effects of budgets; (vi) highlights the criteria for revenue allocation in Nigeria and their impact.
15. Economic Growth and Development	Candidates should be able to:
<ul style="list-style-type: none"> a. Meaning and scope b. Indicators of growth and development c. Factors affecting growth and 	<ul style="list-style-type: none"> (i) distinguish between economic growth and development; (ii) highlight the indicators of growth and

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>development</p> <p>d. Problems of development in Nigeria</p> <p>e. Developing planning in Nigeria.</p>	<p>development;</p> <p>(iii) identify the factors affecting growth and development;</p> <p>(iv) assess the problems of development in Nigeria;</p> <p>(v) examine the role of planning in development;</p>
<p>16. Agriculture in Nigeria</p> <p>a. The role of agriculture in economic development;</p> <p>b. Characteristics and problems;</p> <p>c. Effects of agricultural policies;</p> <p>d. Instability in agricultural income (causes, effects and solutions)</p>	<p>Candidates should be able to:</p> <p>(i) identify the characteristics and problems of agriculture;</p> <p>(ii) assess the role of agriculture in economic development;</p> <p>(iii) appraise some agricultural policies;</p> <p>(iv) evaluate the causes and effects of instability in agricultural income.</p>
<p>17. Industry and Industrialization</p> <p>a. Concepts and effects of location and localization of industry in Nigeria;</p> <p>b. Problems of Industrialization strategies (e.g. export promotion, import substitution etc)</p> <p>c. SMEs and economic development in Nigeria</p>	<p>Candidates should be able to:</p> <p>(i) differentiate between location and localization of industry;</p> <p>(ii) identify the factors influencing the location and localization of industry;</p> <p>(iii) examine the problems of industrialization;</p> <p>(iv) appraise some industrialization strategies;</p> <p>(v) examine the role of industry in economic development.</p>
<p>18. Petroleum and the Nigerian Economy</p> <p>a. Development of the petroleum industry in Nigeria;</p> <p>b. Contributions of petroleum to the Nigerian economy;</p> <p>c. Linkage effects;</p> <p>d. Upstream/downstream activities.</p>	<p>Candidates should be able to:</p> <p>(i) trace the development of the petroleum industry in Nigeria;</p> <p>(ii) assess the contribution of petroleum to the Nigerian economy;</p> <p>(iii) establish the linkages between the petroleum and other sectors;</p> <p>(iv) analyse the environmental effects of exploration activities in Nigeria;</p> <p>(v) distinguish between the upstream and downstream activities ;</p> <p>(vi) suggest ways of controlling the effect of oil exploration.</p>
<p>19. Business Organizations</p> <p>a. Private enterprises (e.g. sole-proprietorship, partnership, limited liability companies and cooperative societies)</p> <p>b. Problems of private enterprises;</p> <p>c. Public enterprises;</p>	<p>Candidates should be able to:</p> <p>(i) compare the types and basic features of private business organization;</p> <p>(ii) assess the financing and management problems of business organizations;</p> <p>(iii) identify the features of public enterprises;</p> <p>(iv) differentiate between privatization and</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>d. Privatization and Commercialization as solutions to the problems of public enterprises.</p> <p>20. Population</p> <p>a. Meaning and theories; b. Census: importance and problems. c. Size and growth: over-population, under-population and optimum population. d. Structure and distribution; e. Population policy and economic development.</p> <p>21. International Trade</p> <p>a. Meaning and basis for international trade (absolute and comparative costs etc) b. Balance of trade and balance of payments: problems and corrective measures; c. Composition and direction of Nigeria's foreign trade; d. Exchange rate: meaning, types and determination.</p> <p>22. International Economic Organizations</p> <p>Roles and relevance of international organization e.g. ECOWAS, AU, EU, OPEC, ECA, IMF, EEC, OECD, World Bank, IBRD, WTO, ADB and UNCTAD etc to Nigeria.</p> <p>23. Factors of Production and their Theories</p> <p>a. Types, features and rewards; b. Determination of wages, interest and profits; c. Theories: marginal productivity theory of wages and liquidity preference theory; d. Factor mobility and efficiency; e. Unemployment</p>	<p>commercialization; (v) compare the advantages and disadvantages of privatization and commercialization;</p> <p>Candidates should be able to:</p> <p>(i) analyse the features of some population theories; (ii) examine the relevance of the theories to Nigeria; (iii) examine the uses and limitations of census data; (iv) identify determinants of the size, composition and growth of population; (v) analyse the structure and distribution of population; (vi) appraise government population policy in Nigeria.</p> <p>Candidates should be able to:</p> <p>(i) examine the basis for international trade; (ii) differentiate between absolute and comparative advantages; (iii) distinguish between balance of trade and balance of payments and their corrective measures; (iv) highlight the problems of balance of payments and their corrective measures; (v) examine the composition and direction of Nigeria's foreign trade; (vi) identify the types of exchange rates; (vii) examine how exchange rates are determined.</p> <p>Candidates should be able to:</p> <p>(i) identify the various economic organizations and their functions; (vii) evaluate their relevance to the Nigerian economy</p> <p>Candidates should be able to:</p> <p>(i) identify the types; features and rewards of factors; (ii) analyse the determination of wages, interest and profits; (iii) interpret the marginal productivity of liquidity preference theories; (iv) examine factors mobility and efficiency; (v) examine the types and causes of unemployment in Nigeria; (vi) suggest solutions to unemployment in Nigeria.</p>

RECOMMENDED TEXTS

- Aderinto, A.A names(s)? (1996). Economics: Exam Focus, Ibadan: University Press Plc.
- Black, J. (1997). Oxford Dictionary of Economics. Oxford: Oxford University Press
- Eyiye, D.O. (1980). Economics Made Easy, Benin City, Quality Publishers Ltd.
- Fajana, F et al (1999). Countdown to SSCE/JME Economics Ibadan: Evans
- Falodun, A.B. et al (1997). Round-up Economics, Lagos: Longman
- Kountsoyiannis, A. (1979). Modern Microeconomics, London: Macmillan
- Lawal, O.A. (1985). Success in Economics, London: John Muray.
- Lipsey, R.G. (1997). An Introduction to Positive Economics, Oxford: Oxford University Press.
- Samuelson, P and Nordhaus, W. (1989). Economics, Singapore: McGraw-Hill
- Udu E and Agu G.A. (2005). New System Economics: a Senior Secondary Course, Ibadan: Africana FIRST Publishers Ltd.
- Wannacott and Wannacott (1979). Economics, New York: McGraw-Hill.
- Wisdomline Pass at Once JAMB.

ARABIC

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Arabic is to prepare the candidates for the Board's examination. It is designed to test their achievement of the course objectives, which are to:

1. answer comprehension question correctly in standard Arabic;
2. translate simple texts from English to Arabic and vice versa;
3. apply the rules of Arabic grammar functionally;
4. see simply Arabic comprehension
5. appreciate Arabic literary texts within the contexts of their environment and eras;
6. use Arabic as a living world language in communication where necessary.

DETAILED SYLLABUS

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>SECTION A: COMPREHENSION</p> <p>It consists of two passages of seventy (70) words each. Five multiple-choice questions are to be set on each passage. The contents should be within the experience of the candidates e.g. current affairs, sports, education, politics, economy, health, culture and ethic. The themes of the two passages should vary.</p> <p>SECTION B: TRANSLATION</p> <p>This section consists of ten (10) questions. Five of them are on translation from English into Arabic while the other five are on translation from Arabic into English.</p> <p>Translation into English includes key words and phrases in a sentence.</p> <p>Translated questions are to be based on standard Arabic and English usages.</p>	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> i. use appropriate words or phrases for specific thought; ii. deduce the lesson in the passage; iii. determine the main theme of the passage; iv. give an appropriate title of a passage; v. interpret the meanings of particular words. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> i. use an appropriate Arabic word or phrase to convey the meaning of an English word or phrase; ii. determine an appropriate English word or phrase for an Arabic statement; iii. interpret idiomatic expressions in both Arabic and English; iv. transfer ideas expressed in Arabic to English and vice versa; v. communicate effectively in Arabic and English.

TOPICS/CONTENTS/NOTES	OBJECTIVES
SECTION C: GRAMMAR Major grammatical features in Arabic to be examine include: 1. Demonstrative and relative pronouns. أسماء الإشارة و الموصولة. 2. Gender (Masculine and Feminine). المذكر و المؤنث. 3. Characteristics of noun. علامات الاسم. 4. Dual. المثنى. 5. Plurals: الجموع: أ – جمع المذكر السالم. a. sound masculine plural ب – جمع المؤنث السالم b. sound feminine plural ج – جمع التذكير c. broken plural 6. Construct phrases. المضارع و المضارع إليه. 7. Separable and inseparable pronouns. الضمائر المنفصلة و المتصلة 8. Appendants: التوابع: a. adjectives. أ – النعت. b. conjunction. ب – العطف. c. the permutative. ج – التوكيد. 9. Prepositions. حروف الجر 10. The perfect verb. الفعل الماضي 11. The imperfect verb: الفعل المضارع: a. the indicative. أ – المرفوع b. the subjunctive. ب – المنصوب c. the jussive. ج – التوكيد 12. The imperative verb. الفعل الأمر. 13. The modifiers: النواسخ: أ – كان و أخواتها a. Kana and its associates ب – إن و أخواتها b. Inna and its associates ج – ظن و أخواتها c. Zanna and its associates 14. Original trilateral and derived verbs. الفعل الثلاثي المجرد و المزيد.	Candidates should be able to: i. identify the various forms of demonstrative and relative pronouns; ii. compare gender markers in Arabic; iii. identify the three forms of constructing Arabic nouns; iv. differentiate between singular and dual forms of nouns; v. construct plural forms of singular nouns; vi. identify construct phrases and their usages; vii. differentiate between separable and inseparable pronouns; viii. detect wrong words of adjectives, conjunctions and the permutative in Arabic sentences; ix. apply correct preposition in a given sentence; x. differentiate between the perfect, imperfect and the imperative verbs and their forms; xi. detect imperfect verbs in sentence; xii. differentiate between the indicative, subjunctive and jussive verbs; xiii. apply them in spoken and written Arabic; xiv. use the imperative verb correctly;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>15. Derivatives: المشتقات:</p> <p>أ – اسم التفضيل.</p> <p>a. the comparative/superlative.</p> <p>ب – اسم الآلة.</p> <p>b. nouns of instrument.</p> <p>ج – اسم الزمان و المكان.</p> <p>c. nouns of time and place.</p> <p>د – اسم النسبة.</p> <p>d. relative adjectives.</p> <p>16. Conditional sentences. الجملة الشرطية</p> <p>17. Numerals (1 – 3000). العدد (1 – 3000 فقط)</p> <p>18. Active and passive voice. الفاعل و نائب الفاعل.</p> <p>19. Objects: المفعولات:</p> <p>أ – المفعول به.</p> <p>a. direct object.</p> <p>ب – المفعول المطلق.</p> <p>b. absolute object.</p> <p>ج – المفعول لأجله.</p> <p>c. adverb of reason.</p> <p>د – المفعول فيه (الظرف).</p> <p>d. adverbs of place and time.</p> <p>SECTION D: COMPOSITION</p> <p>This section consists of five (5) questions on subjects relating to the lives and environment of the candidates, e.g. education, culture, health, politics, economy, sports and current affairs.</p> <p>SECTION E: ARABIC LITERATURE</p> <p>This section consists of ten (10) questions on notable literary figures and their works cutting across the various periods which include the following:</p> <p>أ – العصر الجاهلي (حوالي 500 – 610م).</p> <p>a) The Pre-Islamic Period (500 – 610 C.E.).</p> <p>- قس بن ساعدة و خطبته "من عاش مات"</p> <p>- زهير بن أبي سلمى و قصيدته الميمية في الحكمة.</p>	<p>xv. identify the kinds of modifiers and their associates;</p> <p>xvi. apply the rules governing them;</p> <p>xvii. differentiate between triliteral and derived verbs;</p> <p>xviii. identify the types of derivatives;</p> <p>xix. detect them in sentence;</p> <p>xx. use them in sentences;</p> <p>xxi. apply them in spoken and written Arabic;</p> <p>xxii. construct conditional sentences;</p> <p>xxiii. differentiate them from normal sentences;</p> <p>xxiv. identify the intricacies involved in the use of numerals in Arabic;</p> <p>xxv. recognize and count Arabic numerals from 1 – 3000;</p> <p>xxvi. distinguish between active and passive voice;</p> <p>xxvii. differentiate between direct and absolute objects;</p> <p>xxviii. identify types of adverbs;</p> <p>xxix. detect them in sentences;</p> <p>xxx. use them in spoken and written Arabic.</p> <p>Candidates should be able to:</p> <p>i. use appropriate words for specific thoughts;</p> <p>ii. use idiomatic expression in Arabic correctly;</p> <p>iii. communicate effectively in Arabic;</p> <p>iv. express ideas clearly in Arabic;</p> <p>v. demonstrate with common Arabic idioms and proverbs;</p> <p>Candidates should be able to:</p> <p>i. categorize Pre-Islamic literary expression;</p> <p>ii. identify pre-Islamic poetic patterns;</p> <p>iii. analyse figurative expressions contained in a given Islamic literary period;</p> <p>iv. identify the style of expression used in Islamic literature;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>ب – العصر الإسلامي (610 – 1798 م).</p> <p>b) The Islamic Period (610 – 1798 C.E.).</p> <p>- المتنبي و قصيدته "سيف الدولة المباسل".</p> <p>- الحجاج بن يوسف الثقفي و خطبته التي ألقاها بالبصرة.</p> <p>ج – العصر الحديث (1798 م إلى اليوم).</p> <p>c) The Modern Period (1978 to date).</p> <p>- المنفلوطي و كتابه <u>الغبرات</u> "اليتيم".</p> <p>- أحمد شوقي و قصيدته "الثعلب و الديك".</p> <p>د – أدب غرب إفريقيا بالعربية.</p> <p>d) West African Literature in Arabic.</p> <p>- عبد الله بن فودي و كتابه <u>تزيين الورقات</u>: "وصف وقعة فار".</p> <p>- مسعود عبد الغنى أديبايو (مسرحة) "أستاذ رغم أنه".</p>	<p>v. describe the elegant aspects in a literary piece of modern period;</p> <p>vi. assess Arab cultural values through literary texts;</p> <p>vii. evaluate areas of the successful use of Arabic as a medium of West African literature;</p> <p>viii. analyse the contents of a short drama;</p> <p>ix. describe the major characters plot and language used.</p>

RECOMMENDED TEXTS 2010 – 2012

1. COMPREHENSION

عبد الله الطيب: سميع التلاميذ الجزء 1 – 2 الخرطوم: مكتب النشر.
عبد الفتاح صبرى و علي عمر بك: القراءة الرشيدة. الجزء 1 – 4 القاهرة: دار المعارف.
محمد بديع شريف و سليم حكيم و الحاج حسين آدمو: العربية الجديدة فى نيجيريا. الكتاب 1 – 3 إكيجا: لونغمان.
محمد الأول أبوبكر و الآخرون: العربية الميسرة الجديدة للمرحلة الثانوية. إبادن: دار سبكترم للطباعة و النشر.
سيد حمرة مالك: الإنشاء العربى المتوسط (للمدارس الثانوية) إبادن مطبعة الجامعة ب. ل. س. 2005م.
بشير أحمد محيي الدين و المرضى مختار المرضى: المطالعة الواضحة. كنو: شركة طن لامي و أبنائه.
غرب ط. زاريا (1999م): كيف تكتب الإنشاء. كنو مطبعة جامعة بايرو.

2. TRANSLATION

Adekilekun, A. L. A.: *Learning Arabic Language*, Ilorin.

Balogun, I. A. B. and Oseni Z. I. (1982) *A Modern Arabic Course* Book 1 Lagos: Islamic Publications Bureau.

Haywood, J. A. and Nahmad, H. M. (1965), *A New Arabic Grammar of the Written Language*, London: Lund Humphries.

Malik, S. H. A. (1982) *A Guide to Arabic Composition, Books I & II*, Lagos I.P.B.

3. GRAMMAR

David Cowan: (1975) *Modern Litarary Arabic* London: CUP

على الجارم و مصطفى أمين: النحو الواضح لمدارس المرحلة الأولية. الجزء 1 – 3. القاهرة: دار المعارف.
محمد أجروم الصنهاجى: متن الأجرومية. القاهرة.

محمد محيي الدين عبد الحميد: التحفة السنية بشرح المقدمة الأجرومية. بيروت: دار الفكر.

4. COMPOSITION

بشير أحمد محيي الدين و المرضى مختار المرضى: المطالعة الواضحة. كنو: شركة طن لامي و أبنائه.

عبد الفتاح صبرى و علي عمر بك: القراءة الرشيدة. الجزء 1 – 4. القاهرة: دار المعارف.

عبد الله الطيب: سميع التلميذ. الجزء 1 – 2 الخرطوم: مكتب النشر.

محمد أول أبوبكر و سركى إبراهيم و الطاهر محمد سيد و محمد الطاهر: العربية الميسرة الجديدة للمرحلة الثانوية. إكيجا: دار سبكترم للطباعة و النشر.

غرب ط. زاريا (1997م): كيف تكتب الإنشاء. مطبعة جامعة بايرو.

محمد بديع شريف و سلمى حكيم و الحاج حسين آدمو: العربية الجديدة فى نيجيريا. الكتاب 1 – 3 إكيجا: لونغمان.

5. ARABIC LITERATURE

عبد الله بن فودى (1963م): تزيين الورقات. إبادن، (أو أية طبعة أخرى).

عبد الرحيم عيسى الأول: الكشف فى الأدب العربى للمدارس الثانوية لغرب إفريقيا. لاغوس: شركة م.ب.ب. للنشر. 2000م.

زكريا حسين: المأدبة الأدبية للطلاب العربية فى إفريقيا العربية. أوتشى: دار النور. 2004م.

مسعود عبد الغنى أديبايو: أستاذ رغم أنفه (مسرحية). لاغوس و إبادن 2002م.

مصطفى لطفى المنفلوطى العبرات. بيروت و القاهرة.

Wisdomline Pass at Once JAMB.

CHRISTIAN RELIGIOUS STUDIES

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Christian Religious Studies is to prepare the candidates for the Board's examination. It is designed to test their achievement of the course objectives, which are to:

1. acquire the knowledge and understanding of the tenets of the Christian faith as contained in the Bible
2. interpret biblical teachings and themes;
3. apply biblical teachings and tenets to life in society;

The syllabus is divided into four sections, namely:

SECTION A: Themes from creation to the Division of the Kingdom

SECTION B: Themes from the Division of the Kingdom to the Return from Exile and the Prophets

SECTION C: Themes from the four Gospels and Acts of the Apostles

SECTION D: Themes from selected Epistle

DETAILED SYLLABUS

TOPICS/CONTENTS/NOTES	OBJECTIVES
SECTION A: Themes from Creation to the Division of the Kingdom	
1. The Sovereignty of God God as Creator and Controller of the Universe (Gen. 1 and 2) cf. Amos 9:5-6; Is. 45:5-12	Candidates should be able to: i. interpret the term 'sovereignty'; ii. analyse God's process of creation; iii. interpret the sequence of creation; iv. identify man's role in advancing God's purpose in creation.
2. The Covenant (a) The flood and God's covenant with Noah (Gen. 6:1-22; 7:1-24; 9:1-17) (b) God's covenant with Abraham (Gen. 11:31-32; 12:1-9; 17:1-21; 21:1-13; 25:19-26) (c) God's covenant with Israel (Ex. 19; 20;	Candidates should be able to: i. interpret the concept of covenant; ii. examine the importance and implication of the covenant; iii. distinguish between God's covenants with Noah, Abraham and Israel; iv. Distinguish between the old and the new

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>24:1-11; cf. Deut. 28:1-19)</p> <p>(d) The New Covenant (Jer. 31:31-34; Ezek 36:25-28)</p> <p>3. Leadership Qualities: Examples of</p> <p>(a) Joseph (Gen. 37:1-28; 41:1-57; 45:1-15)</p> <p>(b) Moses (Ex. 1; 2; 3; 4:1-17; 5; 12; Num. 13:1-20; 14:1-19)</p> <p>(c) Joshua (Num. 13:21-33; 27:15-23; Josh. 1:1-15; 6; 7; 24:1-31)</p> <p>(d) Judges (Deborah-Jug. 4:1-24; Gideon-Judge 6:11-40; Samson-Judge 13:1-7, 21-25; 16:4-31)</p> <p>4. Devine Providence</p> <p>(a) Guidance and Protection (Gen. 24:1-61; 28:10-22; 46:1-7; Ex. 13:17-22; 14:1-4; 10-31)</p> <p>(b) Provision (Gen. 21:14-18; 22:1-14; Ex. 16:1-21; 17:1-7; Num. 20:1-13; 1 Kings 17:1-16)</p> <p>5. Parental Responsibility: Examples of</p> <p>(a) Eli and Samuel (1 Sam. 2:11-36; 3:2-18; 4:10-22; 8:15)</p> <p>(b) David and his sons (11 Sam. 13; 15:1-29; 18; 19:1-8)</p> <p>(c) Asa and Jehoshaphat (1 Kings 15:9-15; 22:41-44; cf. Deut. 6:4-9; Prov. 4:1-10; 13:1; 24; 22:6; 23:13-14; 31:10-31)</p> <p>6. i) Obedience and Rewards Examples of</p> <p>(a) Abraham (Gen. 22:1-19)</p> <p>(b) Hebrew Midwives (Ex. 1:8-22)</p> <p>(c) David (1 Sam. 30:1-20)</p> <p>ii) Disobedience and Consequences Examples of</p> <p>(a) Adam (Gen. 2:15-25; 3)</p> <p>(b) Collection of Manna (Ex. 16:22-30)</p> <p>(c) The Golden Calf (Ex. 32)</p> <p>(d) Moses (Num. 20:7-12; Deut. 34:1-6)</p> <p>(e) Saul (1 Sam. 10:1-16; 15:1-25; 16:14-23; 31:1-13)</p> <p>7. A man after God's own heart</p> <p>(a) The early life of David (1 Sam. 16:1-13; 17; 18:17-30; 22:1-5; 24:1-23; II Sam. 2:1-7; 3:1-39)</p> <p>(b) David's submission to the will of God (I Sam. 26:1-25); II Sam 12:15-25</p>	<p>covenants.</p> <p>Candidates should be able to:</p> <p>i. examine the circumstances that gave rise to the leadership of Joseph, Moses, Joshua and the Judges;</p> <p>ii. identify the major talents of these leaders;</p> <p>iii. assess God's role in the works of these leaders;</p> <p>iv. analyse the achievements of these leaders.</p> <p>Candidates should be able to:</p> <p>i. identify the different ways by which God guided and protected the people of Israel;</p> <p>ii. specify how God provided for His people;</p> <p>iii. identify the different occasions when God provided for Israel.</p> <p>Candidates should be able to:</p> <p>i. determine the extent to which Eli, Samuel and David were responsible for the short-comings of their children;</p> <p>ii. describe how Asa and Jehoshaphat pleased God.</p> <p>Candidates should be able to:</p> <p>i. determine why Abraham, the Hebrew midwives and David obeyed God;</p> <p>ii. identify the rewards for obedience.</p> <p>Candidates should be able to:</p> <p>i. compare the disobedience of Adam, the people of Israel, Moses and Saul;</p> <p>ii. indicate the reasons for their disobedience;</p> <p>iii. determine the consequences of disobedience.</p> <p>Candidates should be able to:</p> <p>i. identify David's childhood experiences;</p> <p>ii. specify how David submitted to the will of God;</p> <p>iii. examine the situations that led to David's sin and repentance;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>(c) Repentance and forgiveness (II Sam. 11; 12:1-15, cf. Ps. 51:130)</p> <p>8. Decision - Making</p> <p>(a) Reliance on medium (I Sam. 28:3-25)</p> <p>(b) The Wisdom of Solomon (I Kings 3:3-28; 4:29-34; 5:1-12; 8:1-53)</p> <p>(c) Unwise Policies of Solomon and Rehoboam (I Kings 9:15-23; 11:1-40; 12:1-20)</p> <p>SECTION B: Themes from the Division of the Kingdom to the Return from Exile and the Prophets</p> <p>1. Greed and its Effects Example of</p> <p>(a) Ahab (I Kings 21:1-29; 22:1-40; II Kings 9:30-37)</p> <p>(b) Gehazi (II Kings 5:1-27 cf (Josh 7)</p> <p>2. The Supremacy of God Religious Tension and the Power of God on Mount Carmel (I Kings 16:29-34; 17:1-7; 18; 19:1-18)</p> <p>3. Religious Reforms in Judah</p> <p>(a) Cleansing of the Temple (II Kings 22)</p> <p>(b) Renewal of the Covenant (II Kings 23:1-30)</p> <p>4. Concern for Judah</p> <p>(a) The fall of Jerusalem (II kings 24; 25:1-17)</p> <p>(b) Condition of Judah (Neh. 1:1-11; Ezra 1:1-11)</p> <p>(c) Response to the state of Judah (Neh. 2; 4:1-23 Ezra 3:4; 5; 6; 7)</p> <p>5. Faith in God Faith, Courage and Protection (Dan. 1; 3:1-30; 6:1-28)</p>	<p>iv. determine why God forgave David.</p> <p>Candidates should be able to:</p> <p>i. identify the source of Solomon's wisdom;</p> <p>ii. compare the different ways used by Saul and Solomon in making decision;</p> <p>iii. analyse the decisions made by Saul, David, Solomon and Rehoboam</p> <p>iv. assess the consequences of Solomon and Rehoboan's unwise decisions.</p> <p>Candidates should be able to:</p> <p>i. interpret the meaning of greed;</p> <p>ii. distinguish between Ahab and Gehazi's greed;</p> <p>iii. deduce the consequences of Ahab and Gehazi's greed.</p> <p>Candidates should be able to:</p> <p>i. analyse the religious situation in Israel at the times of Elijah and Ahab;</p> <p>ii. identify the characters involved in the contest on Mount Carmel</p> <p>iii. differentiate between God's power and the Baal.</p> <p>Candidates should be able to:</p> <p>i. analyse Josiah's religious reforms;</p> <p>ii. determine the reasons for the renewal of the covenant;</p> <p>iii. assess the significant of the reforms.</p> <p>Candidates should be able to:</p> <p>i. identify the reasons for the fall of Jerusalem;</p> <p>ii. examine the condition of Judah during the exile;</p> <p>iii. analyse the people's response to the call of Nehemiah and Ezra to rebuild Jerusalem</p> <p>iv. distinguish between Nehemiah and Ezra's responses to the opposition of their enemies</p> <p>Candidates should be able to:</p> <p>i. analyse the stories of Shadrach, Meshach, Abednego and Daniel;</p> <p>ii. determine the occasion on which the four men demonstrated faith;</p> <p>iii. analyse the effects of the faith of the four men on the Babylonians.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
6. God's Message to Nineveh Jonah and his message (Jonah 1; 2; 3 and 4)	Candidates should be able to: i. analyse the story of Jonah's call; ii. describe the consequences of Jonah's disobedience; iii. assess the effect of Jonah's message on the Ninevites; iv. relate God's response to repentance.
7. Social, Justice, True Religion and Divine Love (a) Social justice and true religion (Amos 2:6-8; 4; 5:1-25; 6:1-14; 7:10-17; 8:4-14) (b) Divine Love and human response (Hosea 1; 2; 3; 4; 6:1-11; 14)	Candidates should be able to i. determine what true religion is; ii. identify the ills that led to the call for social justice in Amos' time; iii. Examine the condition in Israel during Hosea's time; iv. analyse Hosea's portrayal of divine love and human response.
8. Holiness and Divine Call (Isaiah 6:1-13; Ezek. 2; 3:1-11; Jer. 1:4-10)	Candidates should be able to: i. distinguish between the calls of Isaiah, Ezekiel and Jeremiah; ii. compare the assignments given to these prophets; iii. determine the need for God's people to be holy.
9. Punishment and Hope (Jer. 3:11-18; 32:26-35; Ezek. 18; 37:1-14; Isaiah 61)	Candidates should be able to: i. describe the situations that led to the punishment of Israel; ii. identify the conditions for hope; iii. determine the benefits of restoration.
SECTION C: Themes from the four Gospels and the Acts of the Apostles	
1. The Birth and early Life of Jesus (a) John, the forerunner of Jesus (Lk. 1:5-25; 57-66; 3:1-20; 7:18-35; Mk. 1:1-8; 6:14-29; Mt. 3:1-12; Jn. 1:6-8; 19-37) (b) The birth and boyhood of Jesus (Mt. 1:18-25; 2; Lk. 1:26-45:2)	Candidates should be able to: i. compare the stories of the birth of John and Jesus; ii. assess the importance of John as the forerunner of Jesus; iii. analyse the boyhood of Jesus.
2. The Baptism and Temptation of Jesus (Mt. 3:13-17; 4:1-11; Mk. 1:9-13; Lk. 3:21-22; 4:1-13)	Candidates should be able to: i. determine the meaning and purpose of the baptism of Jesus ii. specify the temptation of Jesus; iii. examine the significance of the temptation of Jesus.
3. Discipleship (a) The call of the first disciples (Mt. 4:18-22; 9:9-13; Mk. 1:16-20; 2:13-17; Lk. 5:1-11; 27-32) (b) The cost of discipleship (Mt. 8:19-22; Lk. 9:57-63; 14:25-33)	Candidates should be able to: i. identify the first disciples to be called by Jesus; ii. determine the cost of discipleship; iii. compare the different accounts of discipleship in the synoptic gospels.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>4. Miracles</p> <p>(a) Nature Miracles</p> <p>(i) Stilling the storm (Mt. 8:23-27; Mk. 4:35-41; Lk.8:22-25)</p> <p>(ii) Feeding of the Five Thousand (Mt. 4:13-24; Mk. 6:30-44; Lk. 9:10-17; Jn. 6:1-13)</p> <p>(iii) Walking on the sea (Mt. 4:22-26; Mk. 6:45-52; Jn. 6:16-21)</p> <p>(iv) Changing water to wine (Jn. 2:1-11)</p> <p>(b) Miracles of Resuscitation</p> <p>(i) The raising of Lazarus (Jn. 11:1-45)</p> <p>(ii) The raising of Jairu's daughter (Lk. 8:41-42, 49-56; Mk. 5:21-43)</p> <p>(iii) The raising of the widow's son at Nain (Lk. 7:11-17)</p> <p>(c) Healing Miracles</p> <p>(i) The leper (Mt. 8:1-4; Mk. 1:40-45; Lk. 5:12-16; 17:11-19)</p> <p>(ii) The paralytic at the pool (Jn. 5:1-17)</p> <p>(iii) The centurion's servant (Mt. 8:5-13; Lk. 7:1-10)</p> <p>(iv) The blind (Jn. 9:1-12; Mk. 10:46-52; Lk. 18:35-43)</p> <p>(d) Exorcism</p> <p>(i) The Gerasenes (Gadarenes) demoniac (Mt. 8:28-34; Mk. 5:1-20; Lk. 8:21-39)</p> <p>(ii) The epileptic boy (Mk. 9:14-29; Lk. 9:37-43a; Mt. 17:14-21)</p>	<p>Candidates should be able to:</p> <p>i. classify the different miracles of Jesus;</p> <p>ii. indicate the occasion of each of the miracles;</p> <p>iii. examine the significance of each of the miracles;</p> <p>iv. assess the power of Jesus over nature, diseases, demons and death.</p>
<p>5. The Parables</p> <p>(a) Parables of the Kingdom</p> <p>(i) The sower (Mt. 13:1-23; Mk. 4:1-20)</p> <p>(ii) The weeds (Mt. 13:24-30; 36-43)</p> <p>(b) Parables about love of God (Mt. 18:12-14; Lk. 15:1-32)</p> <p>(c) Parables about love for one another (Lk.10:25-37; 16:19-31)</p> <p>(d) Parable about wealth: The rich fool (Lk. 12:13-21)</p>	<p>Candidates should be able to:</p> <p>i. classify the different parables of Jesus;</p> <p>ii. identify the occasion of each parable;</p> <p>iii. interpret the meaning of each parable;</p> <p>iv. give reasons why Jesus taught in parables.</p>
<p>6. Sermon on the Mount</p> <p>(Mt. 5; 6:1-18; Lk. 6:17-26; Mt. 6:19-34)</p>	<p>Candidates should be able to:</p> <p>i. analyse the teachings on the Mount;</p> <p>ii. identify the demands of the Kingdom;</p> <p>iii. determine the consequences of worldly possessions;</p> <p>iv. associate the rewards for obedience with the sermon on the Mount.</p>
<p>7. Mission of the Disciples</p> <p>(a) The mission of the twelve</p> <p>(Mt. 10:5-15; Mk. 6:7-13; Lk. 9:1-16)</p>	<p>Candidates should be able to:</p> <p>i. distinguish between the mission of the twelve and the seventy;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
(b)The mission of the seventy (Lk. 10:1-24)	<ul style="list-style-type: none"> ii. specify the instructions to the disciples; iii. assess the outcomes of the missions.
8. The Great Confession (Mt. 16:13-20; Mk. 8:27-30; Lk. 9:18-22)	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. analyse the confession by Peter; ii. identify the occasion of the Great Confession; iii. examine the significance of the Great Confession.
9. The Transfiguration (Mt. 17:1-13; Mk. 9:2-13; Lk. 9:28-36)	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. trace the event leading to the Transfiguration; ii. determine the significance of the Transfiguration to the disciples; iii. identify the personalities involved in the story of the Transfiguration
10. The Triumphal Entry and the cleansing of the Temple (Mt. 21:1-17; Mk. 11:1-19; Lk. 19:29-48)	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. account for the Triumphal Entry and the cleansing of the Temple; ii. determine the significance of the Triumphal Entry and the cleansing of the Temple; iii. examine how the cleansing of the Temple caused hostility towards Jesus.
11. The Last Supper (Mt. 26:17-30; Mk. 14:10-26; Lk. 22:7-23; Jn. 13:2-38)	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. trace the story of the Last Supper; ii. identify the location of the Last Supper; iii. evaluate the significance of the Last Supper.
12. The Trials and the Death of Jesus <ul style="list-style-type: none"> (a) The Trials of Jesus <ul style="list-style-type: none"> (i) Before the High Priest (Mt. 26:36-75; Mk. 14:53-72; Lk. 22:66-71) (ii) Before Pilate (Mt. 27:11-26; Mk. 15:1-15; Lk. 23:1-5; 13-25; Jn. 18:28-40; 19:1-16) (iii) Before Herod (Lk. 23:6-12) (b) Crucifixion and Burial of Jesus (Mt. 27:32-66; Lk. 23:26-56; Mk. 15:16-47; Jn. 19:17-42) 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. analyse the different trials of Jesus; ii. analyse the Crucifixion and burial of Jesus; iii. compare the account of John with that of the synoptic gospels on the crucifixion and burial of Jesus; iv. deduce the lessons of the death of Jesus.
13. Resurrection, Appearances and Ascension of Jesus (Mt. 28:1-20; Mk. 16:1-20; Lk. 24:1-53; Jn. 20:1-31; Acts 1:1-11)	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) trace the stories of the resurrection, appearances and ascension of Jesus; (ii) compare the accounts in the synoptic gospels,

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>14. Jesus' Teachings about Himself</p> <p>(a) The Bread of Life and the Living Water (Jn. 4:7-15; 6:25-58)</p> <p>(b) The Light of the World (Jn. 1:4-8; 3:19-21; 8:12 9:1-5; 12:35-36)</p> <p>(a) The Door and the Good Shepherd (Jn. 10:1-18)</p> <p>(b) The True Vine (Jn. 15:1-11)</p>	<p>Gospel of John and the Acts of the Apostles;</p> <p>(iii) compare the personalities involved in the stories.</p> <p>Candidates should be able to:</p> <p>(i) analyse the different teachings of Jesus about Himself;</p> <p>(ii) account for the reasons for Jesus' teachings about Himself;</p> <p>(iii) interpret the meanings of the symbols used by Jesus about Himself.</p>
<p>15. Love</p> <p>(a) God's love for man (Jn. 3:16-18)</p> <p>(b) Love for one another (Jn. 13:34-35; 15:12-13 cf. I Jn. 4:7-21)</p>	<p>Candidates should be able to:</p> <p>(i) describe God's love for man;</p> <p>(ii) specify the ways they can love one another;</p> <p>(iii) evaluate the significance of love.</p>
<p>16. Fellowship in the Early Church</p> <p>(a) Communal living (Acts 1:15-26; 2:41-47; 4:32-37)</p> <p>(b) Problems of communal living and solutions (Acts 5:1-11, 6:1-6)</p>	<p>Candidates should be able to:</p> <p>(i) account for communal living in the Early Church;</p> <p>(ii) identify the problems of communal living and their solutions;</p> <p>(iii) examine how communal living helped the growth of the Early Church.</p>
<p>17. The Holy Spirit and the Mission of the Church</p> <p>(a) The Pentecost (Acts 1:8; 2:1-41)</p> <p>(b) The Mission of the Church (Acts 8:4-40)</p>	<p>Candidates should be able to:</p> <p>(i) trace the story of the Pentecost;</p> <p>(ii) examine the significance of the Pentecost;</p> <p>(iii) analyse the mission of the Church.</p>
<p>18. Opposition to the Gospel Message</p> <p>(a) The arrest and imprisonment of Peter and John (Acts 3; 4:1-22; 5:17-42 12:1-24)</p> <p>(b) The martyrdom of Stephen (Acts 6:8-15; 7)</p> <p>(c) Persecution by Saul (Acts 8:1-3; 9:1-2) cf. Gal. 1:11-17</p>	<p>Candidates should be able to:</p> <p>(i) trace the story of the arrest and imprisonment of Peter and John;</p> <p>(ii) trace the events that led to the Martyrdom of Stephen;</p> <p>(iii) account for the role of Saul in the persecution of the Church;</p> <p>(iv) relate the importance of persecution to the growth of the Church.</p>
<p>19. Mission to the Gentiles</p> <p>(a) Conversion of Saul</p>	<p>Candidates should be able to:</p> <p>(i) compare the conversion of Saul</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>(Acts 9:1-30; 22:4-21; 26:9-18)</p> <p>(b) Conversion of Cornelius (Acts 10:1-48)</p> <p>(c) The commissioning and mission of Paul (Acts 13; 14:1-20);</p> <p>(d) The Council of Jerusalem (Acts 15:1-35; Gal. 2:1-21)</p> <p>(e) Persecution of Paul (Acts 16:11-40; 19:23-41 21:27-36)</p> <p>cf. II Cor. 11:23-33</p> <p>SECTION D: Themes from Selected Epistles</p> <p>1. Justification by Faith (Rom. 3:21-24; 5:1-11; 10:1-13)</p> <p>2. The Law and Grace (Rom. 4:13-25; 5:18-21; Gal. 3:10-14; 19-29)</p> <p>3. New Life in Christ (Rom. 6:1-4; 12-14; Col. 3:1-17; Gals. 5:16-26; II Cor. 5:16-19; I Thess. 4:1-8; Rom. 12)</p> <p>4. Christians as Joint Heirs with Christ (Gal. 3:23-29; 4:1-7)</p> <p>5. Humility (Phil. 2:1-11; I Pet. 5:5-11)</p> <p>6. Forgiveness (Philemon; II Cor. 2:5-11)</p>	<p>and Cornelius;</p> <p>(ii) analyse the commissioning and mission of Paul;</p> <p>(iii) examine the main decisions at the Council of Jerusalem;</p> <p>(iv) identify the personalities involved at the Council of Jerusalem;</p> <p>(v) account for the persecution of Paul;</p> <p>(vi) assess Paul's role in the mission to the Gentiles.</p> <p>Candidates should be able to:</p> <p>(i) interpret the term 'justification' by faith;</p> <p>(ii) identify the basic conditions for justification;</p> <p>(iii) determine the fruits of justification.</p> <p>Candidates should be able to:</p> <p>(i) examine the purpose and significance of the law and grace;</p> <p>(ii) identify the place of the law among the Jews.</p> <p>Candidates should be able to:</p> <p>(i) describe the characteristics of the old life;</p> <p>(ii) analyse the new life in Christ;</p> <p>(iii) identify the conditions of the new life;</p> <p>(iv) compare the different writings of Paul on the new life in Christ;</p> <p>(v) distinguish between the old and the new life.</p> <p>Candidates should be able to:</p> <p>(i) describe how Christian could be joint heirs with Christ;</p> <p>(ii) indicate the benefits of being Joint heirs with Christ.</p> <p>Candidates should be able to:</p> <p>(i) determine the meaning of the term 'humility'</p> <p>(ii) identify the requirements of humility;</p> <p>(iii) identify the rewards of humility.</p> <p>Candidates should be able to:</p> <p>(i) analyse Paul's teaching on forgiveness;</p> <p>(ii) assess the benefits of</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
7. Spiritual Gifts (I Cor. 12; Rom. 12:3-18; I Cor. 14)	forgiveness. Candidates should be able to: (i) differentiate between the types of spiritual gifts; (ii) analyse the use of spiritual gifts by the individual.
8. Christian Giving (Phil. 4:14-20; II Cor. 8:1-5; 9)	Candidates should be able to: (i) interpret the concept of Christian giving; (ii) relate the teachings of Paul to Christian giving.
9. Civic Responsibility (Rom. 13; I Tim. 2:1-4)	Candidates should be able to: (i) identify the need for obedience to authority; (ii) specify the requirements of good citizenship.
10. Dignity of Labour (II Thess. 3:6-15; Col. 3:23-35)	Candidates should be able to: (i) interpret the concept of dignity of labour; (ii) analyse the benefits of labour.
11. The Second Coming of Christ (a) The signs of the Coming of Christ (I Thess. 4:13-18; II Thess. 2:1-12) (b) Preparation for His coming (I Thess. 5:1-11; II Pet. 3:1-13)	Candidates should be able to: (i) identify the signs of the Second Coming of Christ; (ii) specify the preparations for His coming; (iii) indicate what will happen during His Second Coming.
12. Impartiality (James 2:1-13) cf. Acts 10:34-35	Candidates should be able to: (i) interpret the concept of impartiality; (ii) compare partiality and impartiality; (iii) examine the consequences of impartiality.
13. Effective Prayer (James 1:2-8; 4:1-3; 5:13-18)	Candidates should be able to: (i) identify the requirements of effective prayer; (ii) distinguish between effective and ineffective prayer.
14. Christian Living in the Community (a) Interpersonal relationship among Christians (I Pet. 5:1-4; Rom. 12:3-21) (b) Christians living among non-Christians (I Pet. 2:3-25; Rom. 15:1-2) (c) Christian attitude to persecution (I Pet. 1:5-9; 4:1-19) (d) Relationship in the Christian Family (Eph. 6: 1-9; Col. 3:18-21; I Pet. 3:1-7)	Candidates should be able to: (i) determine interpersonal relationships among Christians; (ii) analyse Christian living among non-Christians; (iii) relate Christians attitude to persecution; (iv) determine the relationship in the Christian family

RECOMMENDED TEXTS

Adetunje, P.G. **names(s)?** (2000). *ExamFocus Christian Religious Knowledge* Ibadan: University Press Plc

Adeyemo, I. O. **names(s)?** (1998). *Christian Religious Knowledge for Secondary Schools Books 1 – 3*, Ibadan: Onibonoje

Adeyinka, A. A. **names(s)?** (1991). *Christian Religious Knowledge for Senior Secondary Schools, Book 1 – 3*,

Lagos: Longman

Aghaeghuna, E. O. N (1988). *Senior Secondary School Christian Religious Knowledge themes from Selected Epistles*,

Vol 1 – III, Awka, Jet Publishers

Dopamu A. **names(s)?** (1990). *Christian Religious Knowledge for Senior Secondary Schools Books 1 – 3*, Lagos: Nelson

Ilori J. A. **names(s)?** (1980). *Christian Religious Knowledge for Senior Secondary Schools Books 1 – 3*, Ibadan: Evans

Revised Standard Version, Stonchill Green: Bible Society Publishing House (1971).

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HAUSA

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Hausa is to prepare the candidates for the Board's examination. It is designed to test their achievement of the course objectives, which are to enable the candidates to:

1. acquire the ability to read and write competently in the Hausa language;
2. know the basic features of Hausa grammar;
3. have the basic knowledge of oral and written Hausa literature;
4. have the ability to appreciate the culture, customs and institutions of the Hausa people.

The syllabus covers the following areas:

1. Harshe (Language)
2. Al'adu (culture)
3. Adabi (Literature) – oral and written literature.

CIKAKKEN BAYANIN MANHAJA (DETAILED SYLLABUS)

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>1. Harshe (Language)</p> <p>(a) Ka'idodin Rubutu (Orthography) – alphabetization; spelling; rules of word merger and division; punctuation, paragraphing; all in line with standard Hausa.</p> <p>(b) Auna Fahimta (Comprehension) – contextual questions from short unseen passages of about 300 words.</p> <p>(c) Tsarin Sauti (Phonology)</p> <p>i. consonants – production and classification in terms of phonation, place and manner of articulation;</p> <p>ii. vowels – production and classification in terms of position of tongue and lips, monophthongs and diphthongs;</p>	<p>Candidates should be able to:</p> <p>i. recognize the basic Hausa orthographical rules;</p> <p>ii. apply the Hausa orthographical rules;</p> <p>iii. detect linguistic errors, such as grammar, wrong choice of words, wrong spelling, etc.</p> <p>i. read written Hausa texts;</p> <p>ii. comprehend a given Hausa text;</p> <p>iii. interpret various meanings and functions of words in given text,</p> <p>iv. acquire sufficient vocabulary;</p> <p>v. recognize central issues in a given text;</p> <p>vi. draw conclusions based on available evidence in a given text.</p> <p>i. analyse the process of sound production and combination of sounds to form meanings in Hausa;</p> <p>ii. appraise the importance of vowels in determining meaning;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<ul style="list-style-type: none"> iii. tone – e.g. high, low and falling tone patterns; iv. syllable structure – syllable types, e.g. open and closed syllables, light and heavy syllables; v. syllabic categories of words – monosyllabic, disyllabic, etc. vi. vowel length – long and short vowels; vii. phonological processes – e.g. assimilatory: palatalization, labialization and vowel harmony; non-assimilatory: insertion and deletion. <p>(d) Kirar Kalma (Morphology)</p> <ul style="list-style-type: none"> i. roots and stems; ii. affixation – e.g. prefix, infix suffix and their derivational and inflectional functions; iii. gender and number inflections; iv. derivation of nouns and adjectives from verbs; adjectives and verbs from nouns. <p>(e) Ginin Jumla (Syntax)</p> <ul style="list-style-type: none"> i. word classes – e.g. nouns, pronouns, verbs, adverbs, adjectives, prepositions, conjunctions, interjections and ideophones; ii. grammatical categories – e.g. tense and aspect (general and relative past: general and relative continuous, first and second future, habitual); mood (subjunctive and negative); gender (masculine, feminine and neuter) and number (singular and plural); iii. sentence structure – e.g. verbal sentence, nominal phrase + verbal phrase and their components, non-verbal sentence: nominal phrase + stabilizer, nominal phrase+ compliment + stabilizer, nominal phrases + continuous frame (yana../yake...) (+da) + nominal phrase; 	<ul style="list-style-type: none"> iii. distinguish between the phonetic attributes of sounds; iv. recognize the number of syllables and their types in a word; v. recognize the number of syllables and their types in a word; vi. appraise the importance of vowels in determining meaning; vii. analyse the phonological processes in Hausa. <ul style="list-style-type: none"> i. explain the inflectional and derivational processes in Hausa word formation; ii. explain the derivational process of word formation in Hausa; iii. differentiate between the two morphological processes; <ul style="list-style-type: none"> i. analyse the process governing word combination to form phrases; clauses and sentences in Hausa; ii. detect linguistic errors in the grammar; iii. observe punctuation rules; iv. recognize ideas or thoughts in written form; v. construct meaningful sentences for effective communication ; vi. use the appropriate tenses in spoken and written Hausa; vii. use the appropriate gender and number in spoken and written Hausa. <ul style="list-style-type: none"> viii. differentiate between types of sentence structure; ix. distinguish between nominal and verbal phrase;

TOPICS/CONTENTS/NOTES	OBJECTIVES
iv. sentence types – e.g. simple sentences, compound sentences and complex sentences; v. clauses – types (e.g. relative and subjunctive); functions (e.g. main and subordinate). (f) Ma'ana (Semantics) i. lexical aspects of word meaning – e.g. ambiguity, synonymy and antonymy; ii. figures of speech – aspects of specialized meanings of words and phrase.	x. distinguish between types of sentences; xi. compare types of clauses; i. analyse the mechanisms of generating meanings in Hausa; ii. distinguish between the speech sounds of the language to reflect the acceptable grammar. iii. recognize the significance of punctuation rules; iv. recognize the various meanings and functions of sentences in communication; v. use words and sentences suitable for a particular purpose; vi. build up their vocabulary; vii. construct meaningful sentences for effective communication;
(2) Al'adu (Culture)	
(a) Rayuwar Hausawa (Hausa Rite de Passage) i. haihuwa (birth) –ɗaukar ciki da goyon ciki da haihuwa da shayarwa da al'adun makon haihuwa da wanka da fanti da yaye da kaciya da samartaka; ii. aure (marriage) – ire-irensa da nema da baiko da ɗaurin aure da biki da zaman aure da saki da zawarci; iii. mutuwa (death) – faɗar mutuwa da wanka da salla da jana'iza da zaman makoki da sadaka da takaba da gado	Lallai ne masu ɗaukar jarabawa su iya: i. bayyana al'adun da ke tattare da ɗaukar ciki har zuwa haihuwa; ii. bayyana al'adun neman aure har zuwa tarewa; iii. bayyana hanyoyin faɗar mutuwa zuwa rabon gado
(b) Zamantakewa (Social Institutions) i. tsarin zaman iyali da zaman gandu da dangantakar kishiyoyi da 'yan uwantaka da barantaka da agolanci; ii. maƙwabtaka; iii. aikin gandu da na gayya; iv. abota da kawance	i. bayyana tsarin dangantaka da ma'amalar Hausawa; ii. bayyana mahimmancinsu a zamantakewar Hausawa

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>v. gaisuwa da karimci</p> <p>(c) Sana'o'in Gargajiya (Traditional Occupations)</p> <p>i. ire-irensu – noma da kira da jima da kasuwanci da wanzanci da sassaƙa da farauta da dukanci da saƙa da kitso da rini da fawa da fafar ƙorai, da sauransu;</p> <p>ii. yanayinsu – hanyoyin gadon su da kayayyakin yin su da matakan tafiyar da su da muhimmancinsu;</p> <p>iii. kayayyaki ko amfanin da suke samarwa;</p> <p>iv. sarautunsu</p> <p>vi. sana'o'i masu dangantaka da jinsi – aikata da ƙwadago; kitso da aski.</p> <p>(d) Kayayyakin Buƙatun Rayuwa (Material Culture)</p> <p>i. na buƙatun cikin gida (household) – tufafi da karikitan cikin gida;</p> <p>ii. na sauran buƙatu (others) – gine-gine da girke-girke da sauransu.</p> <p>(e) Bukukuwa da Wasanni (Cultural Festivities):</p> <p>i. na addini (religious) – bikin salla da takutaha (sallar gani) a cika-ciki da saukar karatu, da sauransu;</p> <p>ii. na gargajiya (traditional) – kalankuwa da buƙar dawa, da sauransu;</p> <p>iii. na sana'a (occupational) – bikin kamun kifi da dambe da kokawa da wasan farauta da wasan maƙera da hawan ƙaho da sauransu;</p> <p>iv. na nishaɗi – sukuwa;</p> <p>v. na yara (children's games) – shalle da kulli-kurciya da a-sha-ruwan-tsuntsaye da gaɗa da carafke da sauransu.</p> <p>(f) Camfe-camfe da Bauta (Traditional Beliefs and Worship): kan-gida da camfi da bori da maita da tsafi da</p>	<p>i. tantance d'abi'un masu sana'a;</p> <p>ii. tantance kayayyakin da ake sana'antawa;</p> <p>iii. tantance sana'o'in maza da na mata;</p> <p>iv. zayyana kayayyakin sana'o'in;</p> <p>v. tantance hanyoyin gadon sana'o'in;</p> <p>vi. zayyana amfanin kayayyakin;</p> <p>vii. bayyana sarautun sana'o'in;</p> <p>vii. bambanta sana'o'in maza da na mata.</p> <p>i. tantance kayayyakin buƙatun rayuwar Bahausha;</p> <p>ii. tantance amfanin kayayyakin buƙatun rayuwar Bahausha;</p> <p>i. zayyana ire-iren wasanni da bukukuwan Hausawa;</p> <p>ii. nuna mahimancinsu;</p> <p>iii. nuna yadda za a adana su kar su bace;</p> <p>iv. nuna yadda ake gudanar da su;</p> <p>i. tantance ire-ire da hanyoyin aiwatar da su;</p> <p>ii. bayyana amfaninsu;</p> <p>iii. bayyana rashin amfaninsu.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>duba da tsibbu da kambun baka.</p> <p>(g) Sarautun Gargajiya (Traditional Authority)</p> <ol style="list-style-type: none"> ire-irensu – sarki da hakimai da dagatai da masu unguwanni; na bayin sarki – shantali da jakadiya da baraya da sauransu; masu alaƙa da addini; liman da alƙali; ayyukansu; <p>(h) Magungunan Gargajiya (Traditional Medicine)</p> <ol style="list-style-type: none"> ire-irensu – sassaƙe-sassaƙe da sauyoyi da na gari da na ruwa da layu da rubutu; hanyar amfani da su – sha da shafawa da surace da turare da shaƙawa da taunawa da tsotsawa da ɗaurawa da liƙawa; awo da kimantawa; ayyukansu – riga-kafi da warkarwa; tasirin zamananci a kansu <p>(3) Adabi (Literature)</p> <p>1. Adabin Baka (Oral Literature)</p> <p>(a) Zuben Baka (Narratives): Tatsuniya da almara da hikaya da kisa da tarihi.</p> <p>(b) Maganganun Azanci (Folk – Sayings); take da kirari da habaici da zambo da karin magana da kacici-kacici da salon magana da adon harshe.</p> <p>(c) Waƙoƙi (Songs):</p> <ol style="list-style-type: none"> ire-irensu – na fada da na jama'a da na maza da sauransu; jigo da salo da zubi da tsari da mawaƙi da kayan kiɗa da abin da aka 	<ol style="list-style-type: none"> zayyana su ta fuskar ire-iren muƙamai; tantance aikin kowane muƙami; tantance mahimmancin kowane muƙami. <ol style="list-style-type: none"> kasafata ire-iren magunguna da hanyoyin amfani da su; zayyana hanyoyin amfani da su; nuna amfaninsu; nuna tasirin zamananci a kan su. <p>Lallai ne masu ɗaukar jarabawa su iya:</p> <ol style="list-style-type: none"> tantance nau 'o'in zuben baka; amfani da isassun kalmomin da suka dace da kan labari. tantance sigogi da bayyana hanyoyin amfani da su; naƙalta da amfani da kalmomin da suka dace da maganganun azanci. mayyaze ire-iren waƙoƙin baka; tantance masu yin ire-iren waƙoƙin;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>wake.</p> <p>iii. waƙoƙin aiki: na niƙa da daɓe da na daka da na talla da sauransu;</p> <p>iv. Waƙoƙin yara (maza da mata); na aure da na dandali da sauransu;</p> <p>(d) Wasannin Kwaikwayo Na Gargajiya (Traditional Drama):</p> <p>i. Na yara:</p> <ul style="list-style-type: none"> - ire-iren su langa da wasan 'yartsana da tashe da wasan gauta da dokin kara da sauransu; - yadda ake yin su. - muhimmancinsu <p>ii. Na manya:</p> <ul style="list-style-type: none"> - ire-iren su 'yan kama da kalankuwa da hoto da wowwo da tashe, da sauransu; - yadda ake yin su; - muhimmancinsu <p>11. Rubutaccen Adabi (Written Literature) Zube (Prose)</p> <p>Waka (Poetry)</p> <p>Wasan Kwaikwayo (Drama)</p>	<p>iii. rarrabe sigogi da jigo da salailai da zubi da kayayyakin aiwatar da su.</p> <p>i. mayyaze nau'o'in waƙoƙin aiki;</p> <p>ii. tantance masu yin waƙoƙin aiki;</p> <p>iii. bambance sigogin waƙoƙin yara.</p> <p>i. tantance sigogin wasannin kwaikwayo na gargajiya;</p> <p>ii. tantance hanyoyin gudanar da wasannin kwaikwayo na gargajiya;</p> <p>iii. tantance muhimmancin wasannin kwaikwayo na gargajiya;</p> <p>iv. tantance sigogin wasannin kwaikwayo na gargajiya.</p> <p>Lallai ne masu daukar jarabawa su iya:</p> <p>i. tantance sigogi da tsari da jigogi da salailai da taurarin cikin littafin zube tare da nazarin su;</p> <p>ii. naƙaltar ƙa'idojin rubutu tare da amfani da su;</p> <p>iii. naƙaltar ma'anonin kalmomi da na jumlon domin fahimtar labari.</p> <p>iv. tantance muhimman saƙonni a cikin labari da yanke hukunci game da shi.</p> <p>i. shaida jigogi da salailai da sigogi da zubi wajen nazarin zaɓaɓɓiyar waƙa;</p> <p>ii. yin la'akari da ƙa'idojin rubutu musamman na waƙa;</p> <p>iii. tantance ma'anonin kalmomi da na jumlon domin nazarin waƙa;</p> <p>iv. danganta amfani da kalmomi da jumlon da saƙon waƙa;</p> <p>v. tantance muhimman saƙonni a cikin waƙa da yanke hukunci game da ita.</p> <p>i. tantance yanayin wurin wasa da jigogi da salailai da 'yan wasa da sigogi da tsarin rubutaccen wasan kwaikwayo da aka zaɓa don nazari;</p> <p>ii. la'akari da muhimmancin ƙa'idojin rubutu wajen fitar da ma'ana;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
	<p>iii. naƙaltar isassun kalmomi domin fahimtar wasa;</p> <p>iv. tantance muhimman saƙonni a cikin wasa da yanke hukunci game da su.</p>

**ZABABBUN LITTATTAFI
(PRESCRIBED TEXTS)**

Nau'i Zube:	Marubuci (i) Abdullahi, J. (ii) Ibrahim, S.K.	Littafi <i>Nagari Na kowa</i> Zaria: NNPC, 1970 <i>Tura Ta Kai Bango</i> Zaria: NNPC, 1983
Waka:	(i) Aliyu, A.A. (ii) Isma'ila, J	Fasaha Akiliya Zaria: NNPC, 1980 <i>Ciza Ka Busa</i> Longman, Nig. 1981
Wasan Kwaikwayo:	(i) Makarfi, S. (ii) Idris, D.	<i>Zamanin Nan Namu</i> Zaria: NNPC, 1983 <i>Matsolan Attajiri</i> Zaria: NNPC,

**Zaɓaɓɓun Waƙoƙi Daga Zaɓaɓɓun Littattafai
(Selected Poems from Prescribed Texts)**

1. *Fasaha Akiliya*
 - (a) 'Yar Gagara'
 - (b) 'Hausa Mai Ban Haushi'
 - (c) 'Kadaura Babbar Inuwa'
2. *Ciza Ka Busa*
 - (a) 'Al'adun Gargajiya'
 - (b) 'Gaskiya Mai Daci'
 - (c) 'Koƙon Mabarata'

RECOMEMNDED TEXTS

- Galadanci, M.K.M. (1976). *Introduction to Hausa Grammar*, Zaria: Longman
 Junju, M.H. (1980). *Rayayyen Nahawun Hausa*, Zaria: NNPC
 Muhammad, Y.M. (2005). *Fassarar Hausa*, Zaria: ABU Press
 Sani, M.A.Z. (1999). *Tsarin Sauti Da Nahawun Hausa*, Ibadan: UP Plc
 Sani, M.A.Z. name(s)? (2000). *Exam Focus: Hausa Language*, Ibadan UP Plc
 Skinner, N. (1977). *Grammar of Hausa*, Zaria: NNPC
 Yahaya, I.Y. name(s)? (1992). *Darussan Hausa 1 – 3*, Ibadan, UP Plc

B. ADABI DA AL'ADU (LITERATURE AND CULTURE)

- Bichi, A.Y. (1979). *Waƙoƙin Bikin Aure*, Lagos: Nelson
 Dangambo, A. (1984). *Rabe – Raben Adabin Baka da Muhimmancinsa Ga Rayuwar Hausawa*, Kano: T.P.C.
 Gusau, S.M. (1991). *Makaɗa Da Mawaƙan Hausa*, Kaduna: Fisbas Media Service
 Ibrahim, M.S. (1977). *Kowa Ya Sha Kiɗa*, Zaria: Longman
 Madauci, I. name(s)? (1992). *Hausa Customs*, Zaria: ABU Press
 Umar, M.B. (1976). *Danmaraya Jos Da Waƙoƙinsa*, Ibadan: OUP
 Umar, M.B. (1977). *Wasannin Tashe*, Zaria: NNPC

C. KAMUSAI (DICTIONARIES)

- Bargery G.P. (1951). *A Hausa – English Dictionary and English-Hausa Vocabulary* London: OUP
 Newman, R.M. (1997). *An English-Hausa Dictionary*, Ibadan: Longman
 Newman and Newman (1977). *Sabon Kamus Na Hausa Zuwa Turanci*, Ibadan: UPL
 Skinner, N. (1993). *Kamus Na Turanci Da Hausa*, Zaria: NNPC
 CSNL: (2006). *Kamusun Hausa Na Jami'ar Bayero ta Kano*, Kano: 'Dab'in CSNL
 Wisdomline Pass at Once JAMB.

HISTORY

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in History is to prepare the candidates for the Board's examinations. It is designed to test their achievement of the course objectives, which are to:

1. impart knowledge of Nigerian history from earliest times to the present;
2. identify the similarities and relationship between the people of Nigeria as they relate to the issues of national unity and integration;
3. appropriate African history and Africa's relationship with the wider world;
4. analyse issues of modernization and development;
5. evaluate the past and relate it to the present and plan for the future.

DETAILED SYLLABUS

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>SECTION A: NIGERIA UP TO 1800</p> <p>1. Land and People of Nigeria:</p> <p>a. Geographical zones</p> <p>b. People within the zones</p> <p>c. The people's relationship with the environment</p> <p>2. Early centres of civilization:</p> <p>a. NOK, Daima, Ife, Benin, Igbo Ukwu and Iwo Eleru</p> <p>b. Monuments and shelter system: Kuyambana and Durbi-ta-Kusheyi</p> <p>3. Origin and Development of Nigerian states and societies</p> <p>a. Central Sudan – Hausa, Fulani and Kanuri</p> <p>b. Niger/Benue valley – Nupe, Jukun, Igala, Idoma, Tiv and Ebira</p>	<p>Candidates should be able to:</p> <p>i. identify the geographical zones and the people within them;</p> <p>ii. establish the relationship between the people and the environment</p> <p>Candidates should be able to:</p> <p>i. examine the significance of various centres;</p> <p>ii. differentiate between the various monuments such as caves and huge rocky areas;</p> <p>iii. establish their historical significance.</p> <p>Candidates should be able to:</p> <p>i. relate the different groups of people occupying the various zones to their traditions of origin;</p> <p>ii. determine their inter-group relations;</p> <p>iii. account for their economic, social and political</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>c. Eastern forest Belt – Igbo and Ibibio</p> <p>d. Western forest Belt – Yoruba and Edo</p> <p>e. Coastal and Niger–Delta - Efik, Ijo, Itsekiri and Urhobo</p> <p>i. Factors influencing their origin and migration</p> <p>ii. Economic, social and political organizations</p> <p>iii. Inter-group relations, war, peace, trade and religion.</p> <p>4. Economic Activities:</p> <p>a. Agriculture – hunting, farming, fishing, animal husbandry and horticulture.</p> <p>a. Industries – pottery, salt-making, iron-smelting, blacksmithing, leather-working, wood-carving, cloth-making, dyeing and food processing.</p> <p>b. Trade and trade routes:- local, regional, long distance, including trans-Saharan trade?</p> <p>c. Trade and trade routes: local, regional, long distance, including trans – Sahara trade</p> <p>5. External Influences:</p> <p>a. Europeans:</p> <p>i. early European trade with the coastal states.</p> <p>ii. early Christian missionary activities.</p> <p>iii. the trans-Atlantic slave trade (origin, organization and impact)</p> <p>b. Arabs</p> <p>i. introduction, spread and impact of Islam;</p> <p>ii. trans-Saharan trade.</p>	<p>organizations.</p> <p>Candidates should be able to:</p> <p>i. compare the various economic activities of the people;</p> <p>ii. differentiate between crafts and other forms of occupation of the people;</p> <p>iii. relate the trade routes, to their importance to Nigerian history.</p> <p>Candidates should be able to:</p> <p>i. examine the impact of early European contact with the coastal people;</p> <p>ii. assess the early Christian missionary activities;</p> <p>iii. trace the origin, organization and impact of the trans-Atlantic slave trade;</p> <p>iv. assess their impact;</p> <p>v. assess the impact of Arab contact on the people South of the Sahara.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
SECTION B: NIGERIA 1800 – 1900	
1. The Sokoto Caliphate	Candidates should be able to:
a. The Sokoto Jihad – causes, courses and consequences.	i. examine the causes, courses and consequences of the Jihad;
b. The rise of the caliphate	ii. determine the factors that led to the rise of the caliphate;
c. The administration of the caliphate and relations with neighbours.	iii. examine the administrative set-up of the caliphate and its relations with its neighbours;
d. Intellectual activities in the caliphate	iv. examine the significance of the writing of the jihadists;
e. The collapse of the caliphate	v. trace the internal and external factors that led to the collapse.
2. Kanem-Borno	Candidates should be able to:
a. The collapse of the Saifawa dynasty	i. determine the factors that led to the collapse of the Saifawa dynasty;
b. Borno under the Shehus	ii. examine Borno under the administration of the Shehus;
c. Borno under Rabe	iii. assess the role of Rabeh in Borno's history.
3. Yorubaland:	Candidates should be able to:
a. The fall of the Old Oyo Empire	i. examine the causes of the fall of the Old Oyo;
b. The Yoruba wars and their impact	ii. examine the causes and effects of the Yoruba wars;
c. The peace treaty of 1886 and its aftermath	iii. assess the impact of the 1886 peace treaty.
4. Benin	Candidates should be able to:
a. Internal political development	i. examine the internal political development;
b. Relations with neighbours	ii. establish her relations with her neighbours;
c. Relations with the Europeans	iii. assess her relationship with the Europeans.
5. European Relations with Nigeria:	Candidates should be able to:
a. The suppression of the trans-Atlantic slave trade.	i. give reasons for the suppression of the trans-Atlantic slave trade;
b. The development of commodity trade and rise of consular authority.	ii. trace the development of commodity trade;
c. Christian missionary activities.	iii. examine missionary and European activities in the area;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>d. Impact of European activities on the coast and the hinterland.</p> <p>6. The British Conquest of Nigeria:</p> <p>a. Motives for the conquest</p> <p>b. Methods of the conquest and its result.</p> <p>c. Resistance to and aftermath of the conquest.</p> <p>SECTION C: NIGERIA 1900 – 1960</p> <p>1. The Establishment of Colonial Administration up to 1914:</p> <p>a. Administration of the protectorates</p> <p>b. Local administration, forced labour, foreign currency, taxation and monetization</p> <p>2. The Amalgamation of 1914:</p> <p>a. Reasons</p> <p>b. Effects</p> <p>3. Colonial Administration after the Amalgamation:</p> <p>a. Central Administration:- Legislative and Executive Councils</p> <p>b. Indirect Rule – reasons, working and effects</p> <p>c. Local government institutions, native authorities, native courts and native treasuries.</p> <p>d. Protest against colonial rule – Ekumeku Movement in Asaba hinterland 1898 – 1911, the Satiru uprising 1906, Egba and the Anti-tax Agitation 1918, the rising in Okeho and Iseyin 1918, Warri Tax Revolt in 1927 -28, Aba Women Movement in 1929 and the Water Rate Agitation in Benin in 1937 – 38.</p>	<p>iv. account for the rise of consular authority.</p> <p>Candidates should be able to:</p> <p>i. determine the reasons for the conquest and the method used;</p> <p>ii. evaluate the results of and the reactions to the conquest.</p> <p>Candidates should be able to:</p> <p>i. examine the administrative set-up of the protectorates;</p> <p>ii. examine the system of administration with emphasis on forced labour, foreign currency, taxation and monetization.</p> <p>Candidates should be able to:</p> <p>i. examine the reasons for the 1914 Amalgamation and its effects.</p> <p>Candidates should be able to:</p> <p>i. relate the composition of the central administrative set-up to its consequences;</p> <p>ii. identify the reasons for the introduction and workings of the indirect rule system;</p> <p>iii. assess the effects of indirect rule;</p> <p>iv. account for the anti-colonial movements;</p> <p>v. examine their significance.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>4. iv. The Colonial Economy:</p> <ul style="list-style-type: none"> a. Transportation b. Agriculture c. Mining d. Industry e. Commerce f. Banking. <p>5. Social Development under Colonial Rule:</p> <ul style="list-style-type: none"> a. Western education b. Urbanization c. Improvement unions d. Health institutions <p>6. Nationalism and Constitutional Development:</p> <ul style="list-style-type: none"> a. The rise of nationalist movements; b. The 1922 Clifford Constitution and the rise of Nigeria's first political parties. c. The Richards Constitution of 1946 d. The Macpherson Constitution of 1951. e. Party politics – regionalism, federalism and minorities agitations. f. The dawn of independence the Littleton Constitution of 1954, constitutional conference in Lagos in 1957; and g. In London in 1958, the general elections of 1959 and independence 1960. 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. examine the nature of the economy as it affects transportation, agriculture, mining, industry, commerce and banking. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. identify the areas of social development under colonial rule; ii. examine the impact of social development on the people; <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. trace the emergence of the nationalist movement; ii. assess the roles of the different constitutions in constitutional development; iii. determine the factors that aided the attainment of independence; iv. examine the impact of the constitutions on the people; v. trace the development of party politics and its impact; vi. examine the 1945 constitutional conference.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>SECTION D: NIGERIA SINCE INDEPENDENCE</p> <p>1. The politics of the First Republic and Military intervention</p> <p>a. Struggle for the control of the centre;</p> <p>b. Issue of revenue allocation</p> <p>c. The 1962/63 census controversies</p> <p>d. The Action Group crisis</p> <p>e. Military intervention – reasons and significance of the Ironsi Regime</p> <p>2. The Civil War:</p> <p>Causes and effects</p> <p>a. Causes</p> <p>b. Courses</p> <p>c. Effects</p> <p>3. The Gowon Regime:</p> <p>a. Reconstruction, Reconciliation, Rehabilitation.</p> <p>b. The era of oil boom, social and economic development</p> <p>c. State creation</p> <p>d. The fall of Gowon</p> <p>4. Murtala/Obasanjo Regime</p> <p>5. The Second Republic</p> <p>6. The Buhari Regime</p>	<p>Candidates should be able to:</p> <p>i. give reasons behind the struggle for the control of the centre;</p> <p>ii. account for the controversies in revenue allocation;</p> <p>iii. account for the controversies generated by the 1962/63 census and the Action Group crisis;</p> <p>iv. provide reasons behind military intervention;</p> <p>v. assess the significance of military intervention and the role of the military under Ironsi.</p> <p>Candidates should be able to</p> <p>i. examine the remote and immediate causes of the war;</p> <p>ii. assess the effects of the war;</p> <p>iii. examine the courses.</p> <p>Candidates should be able to:</p> <p>i. examine the effects of Gowon's plans to re-integrate the East;</p> <p>ii. account for the economic and social development during the oil boom;</p> <p>iii. give reasons for the creation of states;</p> <p>iv. examine the reasons for and the effects of the overthrow of Gowon.</p> <p>Candidates should be able to:</p> <p>i. assess the achievements of the Murtala/Obasanjo Regime;</p> <p>Candidates should be able to:</p> <p>i. evaluate the legacies of the Shagari Administration</p> <p>Candidates should be able to:</p> <p>i. assess the achievements of Nigeria under Buhari</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>7. The Babangida Regime</p> <p>8. The Interim National Government (ING)</p> <p>9. The Abacha and Abdulsalami Regimes</p> <p>10. Nigeria's role in conflict resolution, ECOMOG in Liberia, Sierra Leone and Guinea.</p> <p>11. Nigeria in International Organization; AU, ECOWAS, UN, the Commonwealth of Nations and OPEC</p>	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> assess the strengths and weaknesses of the Babangida era; examine the transition programme under Babangida. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> examine the role of the interim National Government in the history of Nigeria. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> assess the role of the Abacha and Abdulsalami regimes in the history of Nigeria. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> identify the West African states that benefited from Nigeria's military assistance; examine the impact of Nigeria's role in ECOMOG. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> assess the role of Nigeria in the formation of AU and ECOWAS; examine the benefits accruing to Nigeria as a member of the U.N, Commonwealth and OPEC.
<p>PART II: AFRICA AND THE WIDER WORLD SINCE 1800</p> <p>SECTION A: WEST AND NORTH AFRICA</p>	
<p>1. Islamic Reform Movements and State Building in West Africa:</p> <ol style="list-style-type: none"> Relationship between Sokoto and other Jihads. The Jihads of Seku Ahmadu and Al-Hajj Umar The activities of Samori Toure 	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> establish the relationship between the Sokoto Jihad and other Jihads in West Africa; compare the achievements of the Jihads of Seku Ahmadu and Al-Hajj Umar; assess the significance of the literary works of the period; examine the activities of Samori Toure of the Madinka Empire.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>2. Christian missionary activities in West Africa</p> <ul style="list-style-type: none"> a. The foundation of Sierra Leone and Liberia and the spread of Christianity b. The impact of Christian Missionary activities. 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. determine the factors that led to founding of Sierra Leone and Liberia; ii. examine the importance of Sierra Leone and Liberia in the spread of Christianity; iii. assess the impact of Christian missionary activities in West Africa.
<p>3. Egypt under Mohammed Ali and Khedive Ismail:</p> <ul style="list-style-type: none"> a. The rise of Mohammad Ali and his reforms b. Mohammad Ali's relations with the Europeans c. Ismail's fiscal policies d. The British occupation of Egypt 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. determine the factors that aided Mohammad Ali's rise to power and his reforms; ii. establish the relationship between Mohammad Ali's Empire and the Europeans; iii. account for the fiscal policies of Ismail; iv. examine the reasons for the British occupation of Egypt.
<p>4. The Maghrib and European incursion:</p> <ul style="list-style-type: none"> a. Turkish rule in the Maghrib b. French occupation of Algeria, Tunisia and Morocco c. Italy in Libya d. Maghribian reaction to European rule 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. determine the factors that led to Turkish rule in the Maghrib; ii. give reasons for the French occupation of Algeria, Tunisia and Morocco; iii. account for Italian presence in Libya; iv. assess the Maghribians reaction to European rule.
<p>5. The Mahdi and Mahdiyya Movement in the Sudan</p> <ul style="list-style-type: none"> a. Causes b. Courses c. Consequences 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. examine the causes, courses and consequences of the Mahdiyya Movement in the Sudan

TOPICS/CONTENTS/NOTES	OBJECTIVES
SECTION B: EASTERN AND SOUTHERN AFRICA	
1. The Omani Empire	Candidates should be able to:
a. Sayyid Sa'id and the rise of the Omani Empire	i. determine the factors that led to the rise of the Omani Empire;
b. The empire's commercial and political relations with the coast and the hinterland.	ii. establish commercial and political relations between the Omani Empire, the coast and the hinterland;
c. The Empire's relations with the Europeans	iii. examine the relationship that existed between the Omani Empire and the Europeans.
2. Buganda in the 19th century	Candidates should be able to:
a. The British occupation of Buganda	i. give reasons for the British occupation of Buganda and show the effect of religion had on the politics of Buganda.
b. Religious politics	
3. Ethiopia in the 19th century	Candidates should be able to:
a. The rise of Theodore II and his attempt at the unification of Ethiopia	i. examine the factors that led to the rise of Theodore II as the Emperor of Ethiopia;
b. Menelik II and the survival of Ethiopian independence.	ii. analyse the strategies that were adopted to achieve Ethiopian unification.
	iii. assess the effects of Menelik II in the survival of Ethiopian independence
4. The Mfecane:	Candidates should be able to:
a. The rise of Zulu nations	i. trace events in Nguniland before the Mfecane;
b. Courses and consequences of the Mfecane	ii. determine for the factors that led to the rapid rise of Shaka.
	iii. examine the courses and consequences of the Mfecane.
5. The Great Trek	Candidates should be able to:
a. The frontier wars	i. determine the factors that led to the frontier wars;
b. British intervention in the Boer African relations	ii. account for British intervention in the Boer-African relations;
c. The Great Trek and its consequences.	iii. describe the nature of the Great Trek;
	iv. examine its consequences.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>SECTION C: THEMES IN AFRICAN HISTORY SINCE THE SCRAMBLE</p> <p>1. The new imperialism, the partition and the European occupation of Africa</p> <p>a. Causes of the scramble</p> <p>b. The Berlin Conference</p> <p>c. The occupation and the reaction of Africans.</p> <p>2. Patterns of colonial rule in Africa:</p> <p>a. The British</p> <p>b. The French</p> <p>c. The Portuguese</p> <p>d. The Belgians</p> <p>3. The Politics of decolonization</p> <p>a. Colonial policies and African discontent</p> <p>b. The impact of the two world wars</p> <p>c. Nationalist activities and the emergence of political parties and associations</p> <p>c. Strategies of attaining independence</p> <p>4. Apartheid</p> <p>a. Prelude to apartheid</p> <p>b. Rise of Afrikaner nationalism</p> <p>c. Enactment of apartheid laws</p> <p>d. Internal reaction and the suppression of African nationalist movements</p> <p>e. External reaction to apartheid, AU, the</p>	<p>Candidates should be able to:</p> <p>i. examine the causes of the scramble;</p> <p>ii. account of the decision reached at the Berlin Conference and its aftermath.</p> <p>iii. examine African reaction to the occupation.</p> <p>Candidates should be able to:</p> <p>i. compare the patterns of colonial rule by the various European powers.</p> <p>Candidates should be able to:</p> <p>i. examine the policies employed by the colonial masters;</p> <p>ii. show the magnitude of African discontent;</p> <p>iii. assess the impact of the First and Second World Wars on African nationalism,</p> <p>iv. determine the strategies used in the attainment of independence.</p> <p>Candidates should be able to:</p> <p>i. trace the origin of apartheid in South Africa;</p> <p>ii. give reasons for the rise of Afrikaner nationalism;</p> <p>iii. describe how apartheid laws were enacted;</p> <p>iv. relate the internal reaction to apartheid to the African struggle for majority rule;</p> <p>v. relate the contributions of African states and</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>Commonwealth of Nations, UN and the frontline states.</p> <p>f. The dismantling of apartheid</p> <p>g. Post-apartheid development</p> <p>5. Problems of Nation-building in Africa</p> <p>a. Political and economic constraints</p> <p>b. Ethnic and religious pluralism</p> <p>c. Military intervention and political instability.</p> <p>d. Neo-colonialism and under development.</p> <p>e. Boundary disputes and threat to African unity</p> <p>f. Civil wars and the refugee problem.</p>	<p>international organizations to the fight against apartheid;</p> <p>vi. identify the steps taken towards the dismantling of apartheid in South Africa;</p> <p>vii. assess the post-apartheid development in South Africa.</p> <p>Candidates should be able to:</p> <p>i. examine the political and economic problems faced by African countries in nation-building;</p> <p>ii. determine the role of ethnic and religious problems in African;</p> <p>iii. examine the role of the military in African politics;</p> <p>iv. examine the role of neo-colonialism in Africa;</p> <p>v. assess the problems of boundary disputes;</p> <p>vi. establish the relationship between refugee problems and civil wars in Africa</p>

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- Coombes, A. E. (2003). *Visual Culture and Public Memory in a Democratic South Africa: History after Apartheid*, USA.
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- Wisdomline Pass at Once JAMB.

MUSIC

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Music is to prepare the candidates for the Board's examination. It is designed to test their achievement of the course objectives which are to:

1. appreciate and discuss music fairly and critically;
2. identify, through written analysis, the features of the music of the different periods of Western and African music history, peoples, its forms and the media;
3. appreciate the influence of socio-cultural factors on the lives and music of musicians.

DETAILED SYLLABUS

TOPICS/CONTENTS/NOTES	OBJECTIVES
SECTION A: RUDIMENTS OF MUSIC	
1. The staff (a) The great staff (b) Ledger lines and spaces (c) Open score (vocal score) (d) C clef, alto (viola clef) and tenor clef.	Candidates should be able to: i. identify all the components of the staff and their application.
2. Music Notes/Rests and their corresponding values.	Candidates should be able to: i. determine the relative duration of different notes and rests.
3. Time/Time signature (simple and compound time signatures), the correct grouping of notes and barring of unbarred passages.	Candidates should be able to: i. interpret varied rhythmic patterns in monotone.
4. A – Key signatures and scales: (i) Diatonic major/minor (natural, harmonic and melodic) (ii) Names of the various degrees of the scale B – Determination of the key of a piece of music with or without key signature <u>NOT</u> exceeding two sharps and two flats.	Candidates should be able to: i. identify simple scale passages with or without key signature.
5. (a) Keyboard setting and Enharmonic equivalents (b) Accidentals	Candidates should be able to : i. identify the names of the white and black keys and their relationship, e.g. (C sharp = D ^b = B ^x).

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>6. Recognition of diatonic intervals and their inversions (e.g. perfect unison, perfect 4th, perfect 5th, perfect 8ve), major/minor 2nd, 3rd, 6th and 7th, diminished 5th and augmented 4th.</p> <p>7. Definition of simple musical terms, abbreviations and expressions.</p> <p>8. (a) Transcription of music from staff into tonic solfa notation and vice-versa (b) Transposition using the treble (G) and bass (F) staves <u>NOT</u> exceeding two sharps and two flats.</p>	<p>Candidates should be able to:</p> <p>i. determine different qualities of intervals (melodic and harmonic).</p> <p>Candidates should be able to:</p> <p>i. interpret simple musical terms.</p> <p>Candidates should be able to:</p> <p>i. detect music in any given notation.</p>
<p>SECTION B: ELEMENTARY HARMONY</p> <p>1. Triads and their inversions in major keys, <u>NOT</u> exceeding two sharps and two flats. (a) Primary triads in major keys. (b) Secondary triads in major keys.</p> <p>NOTE A: CHORD INDICATIONS (i) major triads are indicated with capital Roman numerals e.g. I (ii) minor triads are indicated with small Roman numerals e.g. ii (iii) diminished triads are indicated with small Roman numerals with a “o” sign, e.g. viio (iv) augmented triads are indicated with capital numerals with a “+”, e.g. III+</p> <p>NOTE B: (i) In any major scale, major triads are I, IV and V (ii) minor triads are ii, iii and vi (iii) diminished triads is viio</p> <p>NOTE C: (i) In any harmonic minor, minor triads are i and iv (ii) major triads are V and VI (iii) diminished triads are ii and viio (vi) augmented triads is III+</p> <p>NOTE D: Primary triads are I, IV and V in major scales but i, iv and V in harmonic minor scales.</p> <p>2. (a) Basic chord progressions in four part vocal style (SATB) in major keys <u>NOT</u> exceeding two sharps and two flats. (b) Dominant 7th chord in <u>root position only</u></p>	<p>Candidates should be able to:</p> <p>i. identify triads; ii. compare types of triads; iii. determine the use of triads.</p> <p>Candidates should be able to:</p> <p>i. determine the basic chord progressions in a music passage.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>3. Kinds of motion; Parallel, similar, contrary and oblique</p> <p>4. Cadences in major keys NOT exceeding two sharps and two flats. (a) perfect cadence (b) imperfect cadence/semi cadence/half close (c) Plagal cadence/Amen cadence (d) interrupted cadence / deceptive cadence / evaded cadence / surprise cadence</p> <p>5. Non-harmonic tones/Non-chord tones; identification and application of the following: (a) neighbouring tones/auxiliary notes (b) passing tones/notes</p> <p>6. MODULATION Simple diatonic modulations (using a single melodic line only) from any given major key <u>NOT</u> exceeding two sharps and two flats to any of its closely related keys (dominant and subdominant).</p> <p>7. Elementary Composition: (a) Setting of words to written melody: (b) Recognition of suitable answers to given musical phrases</p>	<p>Candidates should be able to:</p> <p>i. identify the various kinds of motion in a musical passage.</p> <p>Candidates should be able to:</p> <p>i. identify the various types of cadences in a musical score.</p> <p>Candidates should be able to:</p> <p>i. relate harmonic or non-harmonic tones to the chords with which they are associated.</p> <p>Candidates should be able to:</p> <p>i. determine a given melody and its modulation.</p> <p>Candidates should be able to:</p> <p>i. identify suitable melody in given words, compatible and balanced (parallel or contrasting).</p>
<p>SECTION C: HISTORY AND LITERATURE OF AFRICAN MUSIC</p> <p>1. Nigerian folksongs, types, forms and characteristics. (i) (a) Types: cradle, folk-tales, games, war, satirical, dirges/funeral, elegies, historical, masquerade, praise and work song, etc. (b) Forms: call and response, strophic, through – composed, etc. (c) Characteristics: vocal styles, recitative, yodeling, ululation, incantation, heaving, whistling, etc. (ii) Scales/modes: tritonic, tetratonic, pentatonic, hexatonic etc. (iii) Metre/Rhythm: Metric and non-metric, polymetric, cross rhythm, syncopation, hemiola, polyrhythm, etc.</p>	<p>Candidates should be able to:</p> <p>i. identify various folksongs and their types; ii. compare their forms and features.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>2. General knowledge of the features and forms of Nigeria traditional music and dances.</p> <p>(i) Festivals: e.g. Osun, Ifa, Ogun, Ekpo, Ofala, Iri-ji (New Yam Festival), Ovia Osese, Mmanwu (Masquerade), Ila-Oso, Argungu (Fishing), Eyo/Adamu – Orisa, Gelede, etc.</p> <p>(ii) Dances: Social, Ritual And Ceremonial e.g. Masquerade, Koroso, Etilogwu, Ikperikpe (War dance), Egedeege, Kwaghir, Agbon, Nkwa, Imuaghogho, Bata, Bori, Swange, Dundun, Kokoma, Abigbo, Okonko, etc.</p> <p>3. INSTRUMENTS: Nigerian traditional musical instruments:</p> <p>CLASSIFICATIONS:</p> <p>(a) Aerophones:</p> <p>(i) Kakaki, algaita, sarewa, pedete, obati, farai, kaho, imar, mongom, taluk, damalgo, etc.</p> <p>(ii) Oja, opi, pipilo, odu, nnuk, ugene, ofiom, akpele, etc.</p> <p>(iii) ekutu, teremagbe, ayeteode, odikakora, etc.</p> <p>(b) Chordophones:</p> <p>(i) goge, kukuma, komo, kwamsa, kuntigi, lasha, molo, garaya, gurmi, etc.</p> <p>(ii) une, ubo-akwara, etc.</p> <p>(iii) goje, molo, etc</p> <p>(c) Idiophones:</p> <p>(i) Kundung, karawa, shantu, etc.</p> <p>(ii) Oyo, ichaka, ogene, aja, ekpili, aja, ekwe, udu, ikoro, ngedegwu, okpokoro, ekere, mgbiligba, ikpo, alo, ubo-aka, etc.</p> <p>(iii) Sekere, agogo, agidigbo, alo, oma, aro, ukuse, eromwon, etc</p> <p>(d) Membranophones:</p> <p>(i) ganga, tambari, taushi, banga, balle, kuntuku, kalangu, gangan-noma, tandu, etc.</p> <p>(ii) Igba, nsing, ban yogume, emoba, etc.</p> <p>(iii) ipese, igbin, bata, bembe, gudugudu, kanango, dundun, agidigbo, gangan, etc.</p>	<p>Candidates should be able to:</p> <p>i. analyse the features and forms of Nigerian traditional music and dances</p> <p>Candidates should be able to:</p> <p>i. differentiate between the various types of festivals and dances;</p> <p>ii. suggest ways to preserve them.</p> <p>Candidates should be able to:</p> <p>i. differentiate between the various types and classes of musical instruments;</p> <p>ii. classify them into their categories.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>4. Knowledge of the lives and music of the following African tradition musicians:</p> <p>A. NIGERIANS</p> <p>(i) Sani Sabulu, Sani Dan Indo, Hassan Wayam, Barmani Coge, Danlami Nasarawa, Garba Super, Dankwairo, Aminu mai Asharalle, Shehu Ajilo, Dan Maraya Jos, Dan Alalo, Mamman Shata, Haruna Uje, etc.</p> <p>(ii) Ezigbo Obiligbo, Seven-Seven, Morocco Maduka, Okechukwu Nwatu, etc.</p> <p>(iii) Kokoro, the blind Minstrel, Anikura, Tunde Alao etc.</p> <p>B. OTHER AFRICANS</p> <p>Vinoko Akpalu, Daniel Amponsah (alias koo Nimo), Efua Basa, Kwaa Mensah etc.</p>	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> identify different groups to which various musicians belong; trace their biographies; analyse their musical styles; assess their contributions to the music industry.
<p>5. Evolution and Development of African Popular Music:</p> <p>Highlife, Afro-beat, Fuji, Apala, Reggae, Makosa, Ikwoirikwo, Okukuseku, Ekassa, Awurebe, Waka etc.</p>	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> differentiate one musical genre from another; Examine their influence on society.
<p>6. Knowledge of the live and music of the following African Popular Musicians.</p> <p>A. NIGERIANS:</p> <p>Bongos Ikwe, Charles Oputa (alias Charlie Boy), Oliver De Coque, Nelly Uchendu, Osita Osadebe, Bright Chimezie, Bobby Benson, Victor Uwaifo, Sunny Okosun, Fela Anikulapo Kuti, I. K. Dairo, Victor Olaiya, Ebenezer Obey, Sunny Ade, Fatai Rolling Dollar, Bala Miller, Alhaji Uba Rawa, Zaaki Adzee, 2Face, Styl Plus, P. Square, Dijnee, Paul Play Dairo, Eedris Abdulkareem, Debanj, Sunni Neji, Lagbaja, Zule Zoo, Daddy Showkey, Majek Fashek, Ras Kimono, Jeremiah Gyang, etc.</p> <p>B. OTHER AFRICAN</p> <p>Manu Dibango, E. T. Mensah, Jerry Hansen, Kofi Olomide, Awilo Logomba, Papa Wemba, Salif Kaita, Angelina Kidgo, Lucky Dube, Yvonne Chakachaka, Brenda Fasie, etc.</p>	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> relate the musicians to the music they perform; trace their biographies; examine their type of music; assess their contributions to the development of music.
<p>7. Knowledge of the lives and music of the following African Art Musicians:</p> <p>A. NIGERIANS</p> <p>W. W. C. Echezona, Laz Ekwueme, Sam</p>	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> relate the musicians to the music they perform; trace their biographies; examine their type of music; assess their contributions to the development of

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>Akpabot, Ikoli Harcourt Whyte, Joshua Uzoigwe, Mosun Omibiyi-Obidike, Tunji Vidal, Ademola Adegbite, Yemi Olaniyan, Ayo Bankole, Akin Euba, Sam Ojukwu, A. K. Achinivu, Bode Omojola, Felix Nwuba, Christopher Oyesiku, etc.</p> <p>B. OTHER AFRICANS: Joseph S. Maison, N. Z. Nayo, J. H. Kwabena Nketia, etc.</p> <p>SECTION D: HISTORY AND LITERATURE OF WESTERN MUSIC</p> <p>1. (A) Historical development of Western music styles in respect of the periods (i) Medieval/Middle Age – 800 – 1400 (ii) Renaissance period – 1400 – 1600 (iii) Baroque period – 1600 – 1750 (iv) Classical period – 1750 – 1820 (v) Romantic period – 1820 – 1900</p> <p>B. COMPOSERS Palestrina, Claudio Monteverdi, Henry Purcell, J.S. Bach, G. F. Handel, W. A. Mozart, Franz Joseph Haydn, Ludwig van Beethoven, Franz Schubert, Frederic Chopin, etc.</p> <p>2. MUSIC FORMS (i) Binary, Ternary, Rondo, Sonata Allegro, Dance Suite, Canon, Free Fantasia, Theme and variation, etc. (ii) Orchestral and Band instruments and classifications (iii) The human voice (its types, ranges and qualities) (iv) Keyboard Instruments – the organ, piano and electronic keyboard, e.t.c. (v) Knowledge of the following instruments: Ukulele, banjo, guitar, mandoline, harp, accordion, xylophone, marimba, etc.</p> <p>SECTION E: COMPARATIVE MUSIC STUDIES</p> <p>1. An overview of the following black musicians (composers, performers, etc) in the diaspora. Mighty Sparrow, James Brown, Bob Marley, Michael Jackson, Stevie Wonder, Lionel Richie, R. Kelly, Lorrinan Hill, Kirk Franklin, Tupac Shakur, Shabba Ranks, Quincy Jones, Boyz II Men, Sean Paul, Janet Jackson, Whitney Houston, Beyonce, Brandy, Usher,</p>	<p>music</p> <p>Candidates should be able to: i. trace the stages of the development of western musical practice from the medieval to the end of the romantic period.</p> <p>Candidates should be able to: i. identify the composers; ii. assess their contributions.</p> <p>Candidates should be able to: i. identify the general forms and various types of instruments in Western music.</p> <p>Candidates should be able to: i. identify the musicians in the diaspora; ii. assess their musical influence on the global society.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>Kevin Lyttle, Bobby Brown, M. C. Hammer, L. L. Cool J., Dr. Dre, Snoop Doggy, Mary J. Blige, etc.</p> <p>2. Forms to be examined include negro spiritual, gospel music, jazz, rhythm and blues, soul, calypso, rock 'n' roll, reggae, afro-beat, tango, rap, chachacha, bolere, twist, hip-hop, etc.</p> <p>3. The spirit of nationalism in Nigerian music.</p>	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> identify the various forms of musical genres; trace the origins of the musical genres. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> identify some of the features and materials used by nationalist composers to create, project and sustain cultural and patriotic awareness; assess their roles in Nigerian nationalism.

RECOMMENDED TEXTS

- Akpabot, S. E. (1986). *Foundation of Nigerian Traditional Music*, Ibadan: Spectrum.
- Associated Board (1958). *Rudiments and Theory of Music*, London.
- Cole, W. (1969). *The Form of Music*, London: The Associated Board of the Royal Schools of Music.
- Echezona, W. W. C. (1981). *Nigerian Musical Instruments*, Enugu: Apollo Publishing Ltd.
- Ekwueme, L. (1993). *Choir Training and Choral Conducting for Africans*, Lagos: Lenaus Advertising and Publishing Company.
- Holst, I. (1963). *An ABC of Music*, Oxford: Oxford University Press.
- Hosier, (1961). *Instruments of the Orchestra* Oxford: Oxford University Press.
- Hunt, R. (1960). *Elements of Music*.
- Inanga, A. (1993). *Music for Secondary Schools Vols. I and II*, Ibadan: Spectrum.
- Kamien, R. (1990). *Music: An Appreciation*, McGraw – Hill Publishing Company.
- Kennedy, M. (1985). *The Concise Oxford Dictionary of Music*, (Third Edition), London: Oxford University Press.
- Kitson, C. H. (1978). *Elementary Harmony Book 2*, London: Oxford University Press.
- Kofoworola, Z. O. And Lateef, Y. (1987). *Hausa performing Arts and Music*, Nigeria Magazine.
- Lovelock, W. (1953). *A Concise History of Music*, London: Bell and Hyman.
- Machlis, J. (1977). *The Enjoyment of Music*, New York: W. W. Norton.
- Mensah, A. A. (Undated) *Folksongs for Schools*, Accra.
- Morris, R. O. (1974). *The Oxford Harmony, Vol. I*, London: Oxford University Press.
- Nketia, J. H. (1974). *African Music*, New York: W. W. Norton Company.
- Palmer, K. (1965). *Teach Yourself Music*, London: The English University Press Limited.
- Reed, H. O. (1954). *Basic Music: A Basic Theory Text*, New York: 19, N. Y. Mills Music Inc.
- Taylor, E. (1989). *The Guide to Music Theory*, London: The Associated Board of The Royal Schools of Music.
- Warburton, A. O. (1955). *Graded Music Course for Schools, Books I – III*, London: Longman.
- Wisdomline Pass at Once JAMB.

FRENCH

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in French is to prepare the candidates for the Board's examination. It is designed to test their achievement of the course objectives, which are to:

1. assess written comprehension in French;
2. identify how French sounds work in speech production;
3. examine the culture of Francophone West Africa and France in relation (where possible) to home country;
4. appreciate straightforward literary texts in French;
5. apply the principles governing the structure and use of written French.

DETAILED SYLLABUS

TOPICS/CONTENTS/NOTES	OBJECTIVES
<ol style="list-style-type: none"> 1. Written Comprehension in French <ul style="list-style-type: none"> - Topics of general and emergent Interest e.g. love, life death, politics, Marriage, HIV/AIDS, Communication, child trafficking, Cultism, travel, corruption, money laundering etc. 2. Principles Governing the Structure and Use of Written French <ol style="list-style-type: none"> (1) Identification of basic form classes: <ol style="list-style-type: none"> (a) Nouns – simple/compound, Singular/plural masculine/feminine (b) Pronouns – personal, impersonal, Demonstrative, possessive and Relative. (c) Verbs <ul style="list-style-type: none"> - reflexive and non-reflexive, their moods and tenses. (d) Adjectives <ul style="list-style-type: none"> - qualifying possessive, interrogative, demonstrative, indefinite (e.g. nul), numeral (e.g. dix) and ordinal (e.g. dixième) (e) Adverbs <ul style="list-style-type: none"> - Common forms <ol style="list-style-type: none"> i) with-ment (e.g. lentement) ii) with préposition + noun (e.g. par avion, à cheval, en voiture, par bateau) 	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> (i) deduce answers to question on the content, Intent and style of proposed texts; (ii) apply reasoning skills. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> i. identify what constitutes the basic structures of written French; ii. use the principles governing the structure of written French to determine acceptability, e.g. to transform one form; one class to another; iii. apply the structure to convey diverse messages;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<ul style="list-style-type: none"> - Special forms (e.g. bien, vite, mal, mieux, le mieux, pire, le pis, ne...que) - Types - Manner (e.g. debout, facilement) - Purpose (e.g. pour + Infinitive, afin de + infinitive) - cause and consequence (e.g. pour + infinitive perfect, à cause de + noun) - concession (e.g. malgré + Noun) - place (e.g. y, en, ici, là) - haut, partout) - time (e.g. hier, aujourd'hui, Avant hier, hier, après, demain, la veille, le matin, dans un mois). <p>(f) Prépositions</p> <ul style="list-style-type: none"> - Simple (e.g. à, de, avec, avant, Sur, dans) - compound (e.g. à côté de, au milieu de) <p>(g) Conjunctions</p> <ul style="list-style-type: none"> - of co-ordination (e.g. mais, ou, et, donc, car, cependant, ne...ni) -of subordination (e.g. afin que, quoique, à condition que, pour que, parce que). <p>(h) Articles</p> <ul style="list-style-type: none"> - definite, indefinite and partitive <p>ii assessment of vocabulary span (words in contemporary contexts</p> <ul style="list-style-type: none"> - meaning, use, opposites, synonyms) <p>iii Importance of word order in:</p> <ul style="list-style-type: none"> (a) affirmative sentences (b) interrogative sentences (c) imperative sentences (d) passive voice formation <p>iv Identification and application of basic processes in language structure, e.g.</p> <p>(a) conjugation – in all tenses except l'imparfait du subjonctif, le passé composé du subjonctif et..... le plus – que parfait du subjonctif.</p> <p>(b) negation (e.g. ne...pas, ne...plus, ne...rien, nul ne, ni...ne, ne...personne, personne...ne,</p>	

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>aucun....ne rien ne....etc)</p> <p>(c) agreement (e.g. les beaux arts, il les a vues les photos)</p> <p>(d) pluralisation (e.g. as in cheval/chevaux; beau/beaux)</p> <p>(e) derivation -from adj. to adv – e.g. lent-lentement -from adj. to adj. e.g. un – premier -from adj. to noun – e.g. bon-bonté, riche-riche etc -from one degree of comparison to another (using plus...que, moins....que, aussi....que e.g. plus grand que) NB – special forms – (e.g. bon, meilleur, le meilleur la meilleure, mauvais, pire, le pire)</p> <p>(v) Use of French in set Expressions such as in proverbs, idioms and conventional structures as provided for in common speech acts:</p> <p>(a) proverbs (e.g. tel père tel fils, petit à petit l'oiseau fait son nid)</p> <p>(b) idioms (e.g. avoir une faim de loup, crier sur le toit, mourir de peur)</p> <p>(c) conventional stretches (e.g. enchanté, c'est dommage, formidable, stationnement interdit etc)</p> <p>(d) speech acts (e.g. proposer, conseiller. regretter, admirer espérer, interroger, reprocher, s'accorder etc)</p>	<p>v) apply communicative skills.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>3. Working of French Sounds via: (a) Sound discrimination (e.g. tout/tu) (b) letter-sound correspondence (e.g. ai-/e/, ais-/e/) (c) syllabification (e.g. con/tente/ment) (d) liaison (e.g. trois animaux Cas unique) (e) sense groups in reading (e.g. J'ai mal à la tête) (f) cognates and faux amis (e.g. président, nation) (g) identification of sounds to determine similarity (e.g. maison/saison, dents/don,fond/ fonde).</p> <p>4. Literature - study of selected texts: identification of characteristics features of creative writing e.g. plot, charaters, theme, setting and style (use of Language, imageries etc,</p>	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) discriminate between French sounds (ii) deduce meanings out of sound combinations; (iii) use the above to enhance effective communication; (iv) assess sound groupings in terms of how they are affected by such features as syllabification, liaison, e-caduc; pause, intonation, etc. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> (i) interpret the contents of selected straight-forward creative writings; (ii) compare the contents in terms of the style and form of narration; (iii) assess their relevance to social life.

RECOMMENDED TEXTS

- A** **Literature**
- (i) Mbuko, L. (2006). *Chaque chose en son temps*, Aba: Lynnette Publishers
 - (ii) Malot, H. (1995). *Sans famille*, Editions Français Facile
- B** **Written Language**
- (i) Ajiboye, T. (2006). *Companion to French Grammar (Revised Edition)*:Ilorin: Info-Links.
 - Ajiboye, T. (1999). *Nouvel Horizon, Book 4*, Ibadan: Bounty Press
 - Berard, E. names(s)? (1991). Tempo 2
 - Byrne and Churchill (1980). *A Comprehensive French Grammar*
 - Hatier (1980). *Le Nouveau Bescherelle: L'Art de Conjuguer*, Ibadan: Spectrum
 - Ojo, S. A.(2000). *A Comprehensive Revision Handbook of French Grammar*, Ibadan: Agoro Publishing Company.
 - Any other relevant materials on French Grammars
- B** **Oral:**
- (ii) Ajiboye, T. (2003). *An Introduction to Practice in Oral French*, Ibadan: Bounty Press
 - Leon, M. (1978). *Initiation a la Prononciation du Francais Standard*.
 - Any other materials that emphasise oral practice
- C.** **Culture of Francophone Countries**
- Girod R and Ground-Clement, F. (1979). *Comment vivent les Francais*, Paris: Hachette
 - Mbuko, L. (2000). *French Essays on Culture and Civilisation for Schools and College Ibadan: Bounty Press*.
 - Any other relevant materials, e.g. French newspapers, magazines, journals, and documents on Francophone life.
- Wisdomline Pass at Once JAMB.
- D.** **Dictionary**
- Any good French/English or French dictionary

YORÙBÁ

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Yorùbá is to prepare the candidates for the Board's examination. It is designed to test their achievement of the course objectives, which are to:

1. stimulate and sustain their interest in Yorùbá language, literature and culture;
2. acquire basic knowledge and skill in Yorùbá language, literature and material and non-material aspects of culture.

STRUCTURE OF THE EXAMINATION

The test will be of an objective type, candidates will answer fifty (50) multiple-choice questions covering all aspects of the syllabus:

1. LANGUAGE

(a) Comprehension (1 prose and 1 verse)	10 items
(b) Sound system	05 items
(c) Grammar	06 items
(d) Current orthography	02 items
(e) Translation	02 items

2. LITERATURE

(a) Oral	06 items
(b) Written	09 items

3. CULTURE 10 items

TOTAL	50 items
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DETAILED SYLLABUS

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p style="text-align: center;">SECTION A</p> <p>1. LANGUAGE</p> <p>(a) Comprehension</p> <p style="padding-left: 20px;">(i) Prose</p> <p style="padding-left: 20px;">(ii) Verse</p> <p>(b) Sound System</p> <p style="padding-left: 20px;">(i) Production of sounds (consonants and vowels)</p> <p style="padding-left: 40px;">(ii) Tones, tone change and tonal transfer</p> <p style="padding-left: 40px;">(iii) Syllable structure</p> <p style="padding-left: 40px;">(iv) Sound process (vowel harmony and co- occurrence, e.t.c) elision and contraction)</p> <p style="padding-left: 40px;">(v) Loan-word integration</p> <p>(c) Grammar</p> <p style="padding-left: 20px;">(i) Morphology - Word formation</p>	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> i. identify central issues in a passage and draw appropriate conclusions; ii. determine basic assumptions and express ideas; iii. identify the meanings and functions of given phrases and sentences. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> ia. identify organs of speech and speech sounds; ib. determine their correct usages; ii. detect linguistic errors (pronunciations and wrong usages); iii. determine the syllable components of words; iv. demonstrate knowledge of the basic principles underlying the relationship between sounds; v. demonstrate knowledge of word adaption. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> i. demonstrate good knowledge of word derivation;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>(ii) Word classes – nouns, verbs, adjectives, adverbs, pronouns, conjunctions, prepositions, etc.</p> <p>(iii) Phrases and clauses – types and functions.</p> <p>(iv) Sentences – types, structures and functions</p> <p>(v) Grammatical categories – tense and aspects.</p> <p>(d) Current Orthography</p> <p>(e) Translation</p>	<p>ii. determine the appropriate use of words;</p> <p>iii. demonstrate knowledge and understanding of Yorùbá syntax;</p> <p>iv. identify the types and functions of sentences;</p> <p>v. demonstrate good knowledge of vocabulary.</p> <p>Candidates should be able to:</p> <p>i. detect linguistic errors;</p> <p>ii. present ideas in acceptable modern form, (oral and written);</p> <p>Candidates should be able to:</p> <p>i. demonstrate good knowledge of vocabulary;</p> <p>ii. interpret sentences and ideas in accordance with acceptable principles.</p>
<p>2. LITERATURE</p> <p>(a) Oral Literature:</p> <p>(i) Prose: Láwuyì Ògúnníran, (1985) Eégún Aláré Lagos: Macmillan Nigeria Publishers Ltd.</p>	<p>Candidates should be able to:</p> <p>i. identify central issues, problems, the component parts of an idea presented in a work;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>(ii) Poetry: Wande Abimbola (2012) Àwọn Ojú Odù Méréèrindínlógún Ibadan: University Press PLC.</p> <p>(b) Written Literature:</p> <p>(i) Prose: Agboṣá Àyàdìran (2007) Àkànní Olú-ọmọ Ilorin: Lifesteps Publishers.</p> <p>(ii) Poetry: M.A. Olówu et al (2007) Ewì Yorùbá Lákòtun (SSS 1-3) Ibadan: Evans Brothers (Nigeria Publishers) Ltd</p> <p>(iii) Drama: Lásúnkànmí Tẹ̀là (2007): Ègún Orí Ìkúnlẹ̀ Ibadan: Rasmed</p>	<p>ii. draw appropriate conclusions</p> <p>i. deduce logical inferences from abstract relations of components of an idea in a work;</p> <p>ii. Identify the figurative and the idiomatic expressions in the poem.</p> <p>Candidates should be able to:</p> <p>i. demonstrate good knowledge of ideas in works of art;</p> <p>ii. draw moral lessons from the text;</p> <p>iii. identify the narrative techniques in the text;</p> <p>iv. identify the figurative and idiomatic expressions in the text.</p> <p>i. deduce the import of written works of art and genres;</p> <p>ii. Identify the figurative and the idiomatic expressions in the poem.</p> <p>i. identify the central theme of</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>Publication Limited.</p> <p>3. CULTURE</p> <p>1. Èrò àti ìgbàgbó: (Olódùmarè, àkùdàáyà, emèrè, abbl)</p> <p>2. Ètò ìṣẹ̀lú àti ààbò ilú : (Ègbé àti oḡbà, oyè jíjẹ àti àwọn ìjòyè, ogun jíjà, abbl)</p> <p>3. Ètò ìsínkú àti ogún pín-pín</p>	<p>works;</p> <p>ii. interpret same in accordance with acceptable principles;</p> <p>iii. identify types of drama.</p> <p>iv. identify the figurative and idiomatic expressions in the drama;</p> <p>v. extract the narrative techniques in the drama.</p> <p>Candidates should be able to:</p> <p>i. distinguish traditional practices and acceptable ways of life from modern and common sense beliefs.</p> <p>Candidates should be able to:</p> <p>i. assess the functions and roles of individuals, chieftains, and groups in ensuring peace, stability and continuity of society.</p> <p>Candidates should be able to:</p> <p>i. distinguish between traditional practices;</p> <p>ii. relate them to funerals and</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>4. Oge ẹ́ṣe: (Ilà kíkọ, ara fífín, tìróò lílẹ̀, abbl)</p> <p>5. Ayeye (Ìgbéyàwó, ìṣomọlórúkọ, ìwúyè, abbl)</p> <p>6. Ètò Ìwòsàn: (Ìtojú aláìsàn, ìtojú àtì ìgbẹ́bí aboyún, abbl)</p> <p>7. Àrokò (Ìkìlò, ìtúfò, èbè, abbl)</p>	<p>inheritance;</p> <p>iii. suggest ways to preserve the traditional practices.</p> <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. interpret graphic representation of cultural practices; ii. examine the processes of beautification. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. demonstrate good knowledge of social activities and celebrations; ii. relate events to appropriate situations. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. determine the appropriate health care practices applicable to ailments of members of society; ii. suggest the best ways of using the appropriate health care practices. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. identify the symbolic relevance of objects of communications;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>8. Àwọn Oúnjẹ Yorùbá (Àbàrí, iyán, èwà, abbl)</p> <p>9. Iṣẹ abínibí (Àgbè, ìsòná, ìlù lílù, abbl)</p> <p>10. Ìranra-ẹni- lówó (Àáró, èbèsé, owó yíyá, abbl)</p> <p>11. Ìwà ọmọlúàbí:</p> <p>(a) Ìwà ètọ ọmọlúàbí àti àhàfààní rẹ (Sùúrù, ìmoore, ìbòwò, abbl)</p> <p>(i) Ìwà àitọ ọmọlúàbí àti ìjìyà (Àfojúdi, àìbíkítà, ọlẹ, abbl)</p>	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> relate certain foods to symbolic meanings. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> demonstrate adequate knowledge of the various traditional professions; compare various traditional professions. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> examine various ways of benefiting from communal relationships. <p>Candidates should be able to:</p> <ol style="list-style-type: none"> identify acceptable patterns of behaviour and attitude that conform with society norms and values; suggest ways of inculcating them in society

TOPICS/CONTENTS/NOTES	OBJECTIVES

RECOMMENDED TEXTS

LANGUAGE

- Abíòdún, Jíbólá (1995). *Àròkọ àti Aáyàn Ògbuṣò*, Lagos: MAJAB Publishers
- Adéwólé, L. O. et al (2000). *Exam Focus – Yorùbá language for WASSCE/ SSCE*. Ìbàdàn: UP Plc
- Awóbùlúyì, O. (1978). *Essentials of Yorùbá Grammar*, Ìbàdàn: UP Plc.
- Awóbùlúyì, O. (1990). *Yorùbá Metalanguage (Èdè-Ìperí Yorùbá) Vol. II*, Ìbàdàn: UP Plc.
- Babalólá, A. (ed.) (1991). *Ìwé Ìmọ̀dòtun Yorùbá SSI – SSIII*, Longman
- Bámgbósé, O. (ed.) (1984). *Yorùbá Metalanguage (Èdè – Ìperí Yorùbá) Vol. 1*, Ìbàdàn: UP Plc.
- Bámgbósé, A. (1990). *Fonólójì àti Gírámà Yorùbá*, Ìbàdàn
- Mustapha, O. (ed.) (1988). *Èkọ – Èdè Yorùbá Òde – òní SSI – SSIII*, Macmillian
- Mustapha, O. (ed.) (1991). *Èkọ – Èdè Yorùbá Titun SSI–SSIII*, Yorùbá, Ìbàdàn: UP Plc.
- Odétókun, Adémólá (et. al) (2005). *Ìwé Ìgbàradì fún Ìdánwó Yorùbá*, Ìbàdàn: Macmillan
- Owólabí, K. (1989). *Ìjìnlẹ̀ Ìtupalẹ̀ Èdè Yorùbá (1) Fónétíkì àti Fonólójì*, Ìbàdàn: Oníbonòjé Press
- Owólabí, O, (name(s)?) (1999) *Countdown WASSCE/SSCE. NECO, JME (Ìwé Ìgbàradì fún Ìdánwó Àsekágbá Yorùbá)* Ìbàdàn: Evans
- Oyádèyì, O. (1998). *Ìjìnlẹ̀ Fonólójì àti Gírámà Èdè Yorùbá*, Ìbàdàn: Heinemann

LITERAURE

All the prescribed texts are reflected as applicable on the syllabus under Topics/Contents/Notes column.

CULTURE

- Adéoyè, C. L. (1979). *Àṣà àti Ìṣe Yorùbá*, Ìbàdàn: OUP
- Adéoyè, C. L. (1985). *Ìgbàgbọ̀ àti Èsìn Yorùbá*, Ìbàdàn: Oníbonòjé
- Ládelé, T. A. et al (1986). *Àkójopọ̀ Ìwádíí Ìjìnlẹ̀ Àṣà Yorùbá*, Ìbàdàn: Macmillian
- Wisdomline Pass at Once JAMB.

ART

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Art is to prepare the candidates for the Board's examination. It is designed to test their achievement of the course objectives, which are to:

1. exhibit knowledge of the fundamental elements, principles and terminology of art;
2. demonstrate knowledge of historical dimensions of art with emphasis on Egyptian and Nigerian art;
3. demonstrate knowledge of artistic techniques, processes, the use of materials and maintenance of tools and equipment;
4. display aesthetic sensitivity to the environment and knowledge of the meaning and function of art in society.

DETAILED SYLLABUS

TOPICS/CONTENTS/NOTES	OBJECTIVES
SECTION A	
1. CLASSIFICATION OF ART: <ol style="list-style-type: none"> a. Visual Arts: (Fine and Applied Art) b. Performing Arts: (Music, Dance and Drama) c. Literary Art: (Poetry, Prose, Recitals) etc. 	Candidates should be able to: <ol style="list-style-type: none"> i. differentiate between the three branches of art;
2. ELEMENTS AND PRINCIPLES OF DESIGN: <ol style="list-style-type: none"> a. Elements: line, colour, shape, form, texture, tone, value, space etc. b. Principles: balance, rhythm, proportion, harmony, contrast, repetition, dominance, variety, etc. 	<ol style="list-style-type: none"> ii. identify the elements of design; iii. analyse the principles of design;
3. ART TERMS: Pigments, motif, greenware, armature, silhouette, chiaroscuro, cireperdue, terracotta etc.	<ol style="list-style-type: none"> iv. identify art terms in illustrations; v. link the terms to their areas of specialization; vi. use the terms in analyzing art-works

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p style="text-align: center;">SECTION B</p> <p>1. CULTURAL AND HISTORICAL DIMENSIONS OF ART:</p> <p>a. Prehistoric, Greek and Roman Art,</p> <p>b. Medieval Art: architecture, surface decorations and calligraphy;</p> <p>c. Renaissance Art and Artists: Giotto Di Bondone, Michelangelo Buonarroti, Leonardo da Vinci, Raphael (Raffaello Santi) etc.</p> <p>d. 19th and 20th Century art movements; Impressionism, Realism, Futurism, Cubism, Bauhaus, Pop art, Abstract, Expressionism, Fauvism, etc.</p> <p>2. TRADITIONAL AFRICAN ART: Egypt, Ashanti, Dogon, Mossi, Fon, Senofo, Bambara, Mende, Kisi, Bamileke, Bakumba etc.</p> <p>3. TRADITIONAL NIGERIAN ART: Nok, Ife, Igbo-Ukwu, Benin, Esie, Igala, Jukun, Akwashi, Mbari, etc.</p> <p>4. NIGERIAN LOCAL CRAFTS: Pottery, woodworks, cloth-weaving, carving, leather works, metal works, beadworks, body decoration, mat and cane weaving etc.</p> <p>5. DEVELOPMENT IN CONTEMPORARY NIGERIAN ARTS AND ARTISTS:</p> <p>a. Art Schools: Zaria, Nsukka, Oshogbo group, etc.</p> <p>b. Nigerian artists and art educators; Aina Onabolu, Ben Enwonwu, S. I. Wangboje, Jimoh Akolo, Dele Jegede, etc.</p>	<p>Candidates should be able to:</p> <p>i. compare their materials, styles and techniques;</p> <p>ii. classify the periods and styles with emphasis on architecture, surface decoration and calligraphy;</p> <p>iii. compare the artists, their works and styles;</p> <p>iv. trace the periods they emerged;</p> <p>v. differentiate between the various art movements;</p> <p>vi. analyze their styles techniques, innovations and influences;</p> <p>vii. categorise works in terms of style, materials and locations;</p> <p>viii. categorise works in terms of styles, materials and locations;</p> <p>ix. distinguish between crafts in terms of functions, characteristics and location,</p> <p>x. trace the origins, locations and styles;</p> <p>xi. determine the influence of the art schools and groups;</p> <p>xii. assess the artists in terms of their works, specializations, techniques and styles;</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>c. Museums, galleries and art centres;</p> <p>d. Art institutions, cultural art centres, national art organizations – Nigerian Society for Education through Arts (S.N.E.A), Society for Nigerian Artists (S.N.A), National Council for Arts and Culture (N.C.A.C), etc.</p> <p>e. Major Festivals: Argungu Fishing Festival, Eyo, Egungun, Iri-ji (New Yam), Durbar, Igwe, Ekpo, Odo, etc.</p> <p style="text-align: center;">SECTION C</p> <p>1. ARTISTIC SKILLS, TECHNIQUES AND PROCESSES</p> <p>a. Two-Dimensional Art: drawing, painting, graphics and textile design.</p> <p>b. Perspective:</p> <ol style="list-style-type: none"> Linear, angular, aerial, parallel etc. Perspective terms: foreground, picture plane, eye-level vanishing point, foreshortening, optical illusion, dept etc. <p>c. Sculpture, ceramics and crafts,</p> <p>d. Computer Graphics: Corel Draw</p> <p>2. TOOLS, EQUIPMENT AND MATERIALS</p> <p>a. Two-dimensional Art Materials: pencils charcoal, pastel/crayon, fixatives, fabric, dyes, lino, wood blocks etc.</p> <p>b. Two-Dimensional Art Tools: brushes, lino cutters, drawing instruments, calligraphy, pens, sharpeners, etc;</p> <p>c. Two-Dimensional Art Equipment: air compressor, spray gun, enlarger, computer etc.</p>	<p>xiii. analyse the functions of museums, galleries, art centres and art institutions;</p> <p>xiv. evaluate their impact on the development of art;</p> <p>xv. assess their roles and functions;</p> <p>xvi. examine the impact of major festivals on art and culture.</p> <p>Candidates should be conversant with:</p> <ol style="list-style-type: none"> the techniques, skills and processes with emphasis on tone, composition and colour application; the types of perspective; the use of perspective rules and terms; techniques, skills and processes with emphasis on composition and forms; the basic tools of designs; <p>Candidates should be able to:</p> <ol style="list-style-type: none"> use art materials and tools; maintain tools and art materials; operate art equipment; maintain art equipment;

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>d. Improvisation of materials:</p> <ul style="list-style-type: none"> i. Two-Dimensional Art: colours, brushes, calligraphy etc. ii. Three-Dimensional Art: spatula, kiln, beater, etc. <p>3. PRACTICAL DRAWING</p> <p>Still life, nature or imaginative composition.</p> <p style="text-align: center;">SECTION D</p> <p>1. ART APPRECIATION</p> <ul style="list-style-type: none"> a. Man-made objects: architecture and sculpture b. Natural phenomena: Zuma Rock, Ikogosi Warm Springs, etc. <p>2. MEANING AND FUNCTIONS OF ART IN SOCIETY</p> <ul style="list-style-type: none"> a. What art is b. Functions of art in society: religious, social, cultural, political, therapeutic and economic needs, c. Functions of art in television: advertising, educational recreational, etc. 	<ul style="list-style-type: none"> x. improvise alternative local materials for use; xi. demonstrate their drawing skills within a maximum of 30 minutes; <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. be aware of the existence of natural and man-made aesthetic phenomena in the Nigeria environment; ii. differentiate between natural and man-made aesthetic phenomena; iii. examine the meaning and functions of art; iv. use art as a medium of enhancing societal values; v. assess the role of art in multimedia.

RECOMMENDED TEXTS

- Banjoko I. (2000). *Visual Arts made Easy*: Textbook for Schools and Colleges, Lagos, Movic Publishing Company Ltd.
- Egonwa, O.D. (1991). *African Art: A contemporary Source Book*, Benin: Osasu Publishers.
- Eguilae, S.A. (1985). *The Essential Ground work in Art and Design*, Omotola Standard Press and Bookshop (Nig) Ltd.
- Erese, U. O. and Ogunsina E. D. (1989). *Creative Arts and Crafts for J. S. S.* Onibonoje Press.
- Nahab, S. J. (2003). *Art of the Millennium for Senior Secondary Schools*, Ehindero (Nig.) Ltd.
- Ogumor, E. (1993). *Certificate Art for Junior Secondary Schools and Senior Secondary Schools*, Ibadan: University Press Plc.
- Olaosebikan W. A. (1982). *Cultural and Creative Arts*, Evans
- Olurukooba, B. K. (1991). *Art for Senior Secondary Schools*, ABU
- Wangboje, I. N. (1982). *A Textbook on Art for Junior and Senior Secondary Schools*, Evans
- Wisdomline Pass at Once JAMB.

USE OF ENGLISH

A. GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Use of English is to prepare the candidates for the Board's examination. It is designed to test their achievement of the course objectives, which are to:

- (1) communicate effectively in both written and spoken English;
- (2) have a sound linguistic basis for learning at the tertiary level.

The syllabus consists of two sections:

SECTION A: Comprehension/Summary

SECTION B: Lexis, Structure and Oral Forms

B. DETAILED SYLLABUS

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>1. Comprehension/Summary</p> <ol style="list-style-type: none"> (a) description (b) narration (c) exposition (d) argumentation/persuasion <p>(i) Each of the four passages to be set (one will be a cloze test) should reflect various disciplines and be about 400 words long.</p> <p>(ii) Questions on passages will test the following:</p> <p><i>The Potter's Wheel</i> by Chukwuemeka Ike and <i>The Successors</i> by Jerry Agada will test the following:</p> <ol style="list-style-type: none"> (a) Comprehension of the whole or part of each passage. (b) Comprehension of words, phrases, clauses, sentences, figures of speech and idioms as used in the passages. (c) Coherence and logical reasoning (deductions, inferences, etc) (d) Synthesis of ideas from the passages. 	<p>Candidates should be able to:</p> <ol style="list-style-type: none"> i. identify main points in passages; ii. determine implied meaning; iii. identify the grammatical functions of words, phrases and clauses and figurative /idiomatic expression; iv. deduce or infer the writer's opinion, mood, attitude to the subject matter, etc.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>NOTE: By synthesis of ideas is meant the art of combining distinct or separate pieces of information to form a complex whole, that is, the ability to make generalizations from specific ideas mentioned in the passages. Such generalizations involve identifying the mood or tone of the writer, his attitude to the subject matter, his point of view, etc. In this regard, synthesis is a higher-level skill than summary.</p> <p>2. Lexis, Structural and Oral Forms</p> <p>2.1 Lexis and Structure</p> <ul style="list-style-type: none"> (a) synonyms (b) antonyms (c) homonyms (d) clause and sentence patterns (e) word classes and their functions (f) mood, tense, aspect, number, agreement/concord, degree (positive, comparative and superlative) and question tags (g) punctuation and spelling (h) ordinary usage (words in their denotative or dictionary sense), figurative usage (expressions used in ways other than literal) and idiomatic usage (expressions whose meanings cannot be determined through a mere combination of individual words) are to be tested. <p>NOTE: Idioms to be tested will be those expressed in standard British English (i.e those with universal acceptability)</p> <p>2.2 Oral Forms</p> <ul style="list-style-type: none"> (a) Vowels (monophthongs and diphthongs) (b) Consonants (including clusters) (c) Rhymes (homophones) (d) Stress (word, sentence and emphatic) (e) Intonation <p>NOTE: Sentence stress should not be mistaken for emphatic or contrastive stress. It involves the placement of normal stress on content words (nouns, main verbs, adjectives and adverbs) in an utterance. Here, no emphasis or contrast is intended. For example, the words 'see' and 'soon' would normally be stressed in the sentence, 'I'll see you soon'.</p>	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. use words and expressions in their ordinary, figurative and idiomatic contexts; ii. determine similar and opposite meanings; iii. differentiate between correct and incorrect punctuation and spelling; iv. identify various grammatical pattern in use; v. interpret information conveyed in sentences. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. distinguish correct from incorrect vowels; ii. differentiate correct from incorrect consonants; iii. identify silent letters, vowel length; consonant clusters, etc. iv. determine appropriate uses of stress in words (monosyllabic, disyllabic and polysyllabic) and in sentences (emphatic/contrastive); v. detect partial and complete rhymes.

C. THE STRUCTURE OF THE EXAMINATION

SECTION A: Comprehension/Summary

- (a) 3 comprehension passages (15 questions in all, 3 marks each) = 45 marks
- (b) 1 cloze passage (10 questions in all, 2 marks each) = 20 marks

SECTION B: Lexis, Structure and Oral Forms

- (a) Sentence interpretation (10 questions in all, 2 marks each) = 20 marks
 - (b) Antonyms (opposite in meaning – 15 questions in all, 1 mark each) = 15 marks
 - (c) Synonyms (same in meaning – 15 questions in all, 1 mark each) = 15 marks
 - (d) Sentence completion (filling in the gaps – 20 questions in all, 1 mark each) = 20 marks
 - (e) Oral forms (15 questions in all, 1 mark each) = 15 marks
- Total: 100 questions = 150 marks

RECOMMENDED TEXTS

- Bamgbose, A. (2002). *English Lexis and Structure for Senior Secondary Schools and colleges (Revised Edition)*, Ibadan: Heinemann
- Banjo, A. name(s)? (2004). *New Oxford Secondary English Course Book Six for Senior Secondary Schools*, Ibadan: UP Plc.
- Banjo, A. Ayodele, S. and Ndahi, K. S. (1997). *Exam Focus: English for WASSCE and SSCE*, Ibadan UP Plc
- Caesar, O. J. (2003). *Essential Oral English for Schools and Colleges*, Lagos: Tonad Publishers Limited
- Egbe, D. I (1996). *Mastering English Usage and Communication Skills*, Lagos: Tisons
- Elugbe, B. (2000). *Oral English for Schools and Colleges*, Ibadan: Heinemann
- Grant, N. J. H, Nnamonu, S. Jowitt, D. (1998). *Senior English Project 3, (New Edition)* Harlow: Longman
- Idowu, O. O, Sogbeson, T. S, Adofo, A. K. Burgess, D. F and Burgess, L. J. (1998). *Round-up English: A Complete Guide*, Lagos: Longman
- Idris, U. (2001). *Oral English at Your Fingertips for Schools and Colleges*, Lagos, M. Youngbrain Publishers
- Igwe, S. O. Atoye, R. O. and Olayiwola, B. A. (2005). *JAMB Success: English Language for UME, PCE*, Ibadan: UP Plc
- Nnamonu, S. and Jowitt, D. (1987). *Use of English: JAMB Practice Tests*, Lagos: Longman.
- Nnamonu, S. and Jowitt, D. (1989). *Common Errors in English*, Lagos: Longman
- Obinna, M. F. (2001). *University Matriculation Use of English, (Fourth Edition)* Port Harcourt: Sunray Books Limited
- Ogunsanwo, O. Duruaku, A. B.C, Ezechukwu, J and Nwachukwu, U. I (2005). *Countdown English Language, (Revised Edition)*, Ibadan: Evans
- Olatoye, S. (2006). *The Silent Teacher*, Ado-Ekiti: Segun and Sons Enterprises
- Oluikpe, B. O. A, nnaemeka, B. A, Obah, T. Y, Otagburuagu, E. J. Onuigbo, S. and Ogbonna, E. A. (1998). *Intensive English for Senior Secondary School 3*, Onitsha: Africana – FIRST Publisher.
- Tomori, S. H. O (2000). *Objective Tests for School Certificate english: Practice in Lexis, Structure and idiom (Reprinted Edition)*, Ibadan: Heinemann
- Ukwuegbu, C, Okoro, O., Idris, A. U., Okebukola, F. O. and Owokade, C. O. (2002). *Catch-up English for SSCE/UME*, Ibadan: Heinemann
- Wisdomline Pass at Once JAMB.

MATHEMATICS

GENERAL OBJECTIVES

The aim of the Unified Tertiary Matriculation Examination (UTME) syllabus in Mathematics is to prepare the candidates for the Board's examination. It is designed to test the achievement of the course objectives, which are to:

- (1) acquire computational and manipulative skills;
- (2) develop precise, logical and formal reasoning skills;
- (3) apply mathematical concepts to resolve issues in daily living;

This syllabus is divided into five sections:

- I. Number and Numeration.
- II. Algebra
- III. Geometry/Trigonometry.
- IV. Calculus
- V. Statistics

DETAILED SYLLABUS

TOPICS/CONTENTS/NOTES	OBJECTIVES
SECTION I: NUMBER AND NUMERATION. 1. Number bases: (a) operations in different number bases from 2 to 10; (b) conversion from one base to another including fractional parts. 2. Fractions, Decimals, Approximations and Percentages: (a) fractions and decimals (b) significant figures (c) decimal places (d) percentage errors (e) simple interest (f) profit and loss per cent (g) ratio, proportion and rate 3. Indices, Logarithms and Surds: (a) laws of indices (b) standard form (c) laws of logarithm (d) logarithm of any positive number to a given base. (e) change of bases in logarithm and application.	Candidates should be able to: i. perform four basic operations ($\times, +, -, \div$); ii. convert one base to another. Candidates should be able to: i. perform basic operations; ($\times, +, -, \div$) on fractions and decimals; ii. express to specified number of significant figures and decimal places; iii. calculate simple interest, profit and loss per cent, ratio proportion and rate. Candidates should be able to: i. apply the laws of indices in calculation; ii. establish the relationship between indices and logarithms in solving problems; iii. solve problems in different bases in logarithms. iv. simplify and rationalize surds; v. perform basic operations on surds

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>(f) relationship between indices and logarithm</p> <p>(g) surds</p> <p>4. Sets:</p> <p>(a) types of sets</p> <p>(b) algebra of sets</p> <p>(c) venn diagrams and their applications.</p> <p>SECTION II: ALGEBRA</p> <p>1. Polynomials:</p> <p>(a) change of subject of formula</p> <p>(b) factor and remainder theorems</p> <p>(c) factorization of polynomials of degree not exceeding 3.</p> <p>(d) multiplication and division of polynomials</p> <p>(e) roots of polynomials not exceeding degree 3</p> <p>(f) simultaneous equations including one linear, one quadratic</p> <p>(g) graphs of polynomials of degree not greater than 3</p> <p>2. Variation:</p> <p>(a) direct</p> <p>(b) inverse</p> <p>(c) joint</p> <p>(d) partial</p> <p>(e) percentage increase and decrease.</p> <p>3. Inequalities:</p> <p>(a) analytical and graphical solutions of linear inequalities.</p> <p>(b) quadratic inequalities with integral roots only.</p> <p>4. Progression:</p> <p>(a) nth term of a progression</p> <p>(b) sum of A. P. and G. P.</p> <p>5. Binary Operations:</p> <p>(a) properties of closure, commutativity, associativity and distributivity.</p> <p>(b) identity and inverse elements.</p>	<p>Candidates should be able to:</p> <p>i. identify types of sets, i.e empty, universal, compliments, subsets, finite, infinite and disjoint sets;</p> <p>ii. solve set problems using symbol;</p> <p>iii. use venn diagrams to solve problems involving not more than 3 sets.</p> <p>Candidates should be able to:</p> <p>i. find the subject of the formula of a given equation;</p> <p>ii. apply factor and remainder theorem to factorize a given expression;</p> <p>iii. multiply and divide polynomials of degree not more than 3;</p> <p>iv. factorize by regrouping difference of two squares, perfect squares, etc.;</p> <p>v. solve simultaneous equations – one linear, one quadratic;</p> <p>vi. interpret graphs of polynomials including application to maximum and minimum values.</p> <p>Candidates should be able to:</p> <p>i. solve problems involving direct, inverse, joint and partial variations;</p> <p>ii. solve problems on percentage increase and decrease in variation.</p> <p>Candidates should be able to:</p> <p>solve problems on linear and quadratic inequalities both analytically and graphically</p> <p>Candidates should be able to:</p> <p>i. determine the nth term of a progression;</p> <p>ii. compute the sum of A. P. and G.P;</p> <p>iii. sum to infinity a given G.P</p> <p>Candidates should be able to:</p> <p>i. solve problems involving closure, commutativity, associativity and distributivity;</p> <p>ii. solve problems involving identity and inverse elements.</p>

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>6. Matrices and Determinants:</p> <ul style="list-style-type: none"> (a) algebra of matrices not exceeding 3×3. (b) determinants of matrices not exceeding 3×3. (c) inverses of 2×2 matrices [excluding quadratic and higher degree equations]. <p>SECTION III: GEOMETRIC AND TRIGONOMETRY</p> <p>1. Euclidean Geometry:</p> <ul style="list-style-type: none"> (a) angles and lines (b) polygon; triangles, quadrilaterals and general polygon. (c) circles, angle properties, cyclic, quadrilaterals and intersecting chords. (d) construction. <p>2. Mensuration:</p> <ul style="list-style-type: none"> (a) lengths and areas of plane geometrical figures. (b) lengths of arcs and chords of a circle. (c) areas of sectors and segments of circles. (d) surface areas and volumes of simple solids and composite figures. (e) the earth as a sphere, longitudes and latitudes <p>3. Loci:</p> <p>locus in 2 dimensions based on geometric principles relating to lines and curves.</p> <p>4. Coordinate Geometry:</p> <ul style="list-style-type: none"> (a) midpoint and gradient of a line segment. (b) distance between two points. (c) parallel and perpendicular lines (d) equations of straight lines. 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. perform basic operations ($\times, +, -, \div$) on matrices; ii. calculate determinants; iii. compute inverses of 2×2 matrices <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. identify various types of lines and angles; ii. solve problems involving polygons; iii. calculate angles using circle theorems; iv. identify construction procedures of special angles, e.g. 30°, 45°, 60°, 75°, 90° etc. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. calculate the perimeters and areas of triangles, quadrilaterals, circles and composite figures; ii. find the length of an arc, a chord and areas of sectors and segments of circles; iii. calculate total surface areas and volumes of cuboids, cylinders, cones, pyramids, prisms, sphere and composite figures; iv. determine the distance between two points on the earth's surface. <p>Candidates should be able to:</p> <p>identify and interpret loci relating to parallel lines, perpendicular bisectors, angle bisectors and circles.</p> <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. determine the midpoint and gradient of a line segment; ii. find distance between two points; iii. identify conditions for parallelism and perpendicularity; iv. find the equation of a line in the two-point form, point-slope form, slope intercept form and the general form.

TOPICS/CONTENTS/NOTES	OBJECTIVES
<p>5. Trigonometry:</p> <ul style="list-style-type: none"> (a) trigonometric ratios of angles. (b) angles of elevation and depression and bearing. (c) areas and solutions of triangle (d) graphs of sine and cosine (e) sine and cosine formulae. <p>SECTION IV: CALCULUS</p> <p>I. Differentiation:</p> <ul style="list-style-type: none"> (a) limit of a function; (b) differentiation of explicit algebraic and simple trigonometric functions – sine, cosine and tangent. <p>2. Application of differentiation:</p> <ul style="list-style-type: none"> (a) rate of change (b) maxima and minima <p>3. Integration:</p> <ul style="list-style-type: none"> (a) integration of explicit algebraic and simple trigonometric functions. (a) area under the curve. <p>SECTION V: STATISTICS</p> <p>1. Representation of data:</p> <ul style="list-style-type: none"> (a) frequency distribution (b) histogram, bar chart and pie chart. <p>2. Measures of Location:</p> <ul style="list-style-type: none"> (a) mean, mode and median of ungrouped and grouped data – (simple cases only) (b) cumulative frequency 	<p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. calculate the sine, cosine and tangent of angles between $-360^\circ \leq \theta \leq 360^\circ$; ii. apply these special angles, e.g. 30°, 45°, 60°, 75°, 90°, 135° to solve simple problems in trigonometry; iii. solve problems involving angles of elevation and depression and bearing; iv. apply trigonometric formulae to find areas of triangles; v. solve problems involving sine and cosine graphs. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. find the limit of a function; ii. differentiate explicit algebraic and simple trigonometric functions. <p>Candidates should be able to: solve problems involving applications of rate of change, maxima and minima.</p> <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. solve problems of integration involving algebraic and simple trigonometric functions; ii. calculate area under the curve (simple cases only). <p>Candidates should be to:</p> <ul style="list-style-type: none"> i. identify and interpret frequency distribution tables; ii. interpret information on histogram, bar chart and pie chart. <p>Candidates should be able to:</p> <ul style="list-style-type: none"> i. calculate the mean, mode and median of ungrouped and grouped data (simple cases only); ii. use ogive to find the median quartiles and

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<p>3. Measures of Dispersion: range, mean deviation, variance and standard deviation.</p> <p>4. Permutation and Combination</p> <p>5. Probability</p>	<p>percentiles.</p> <p>Candidates should be able to: calculate the range, mean deviation, variance and standard deviation of ungrouped and group data.</p> <p>Candidates should be able to: solve simple problems involving permutation and combination.</p> <p>Candidates should be able to: solve simple problems in probability (including addition and multiplication).</p>

RECOMMENDED TEXTS

Adelodun A. A (2000). *Distinction in Mathematics: Comprehensive Revision Text, (3rd Edition)*
Ado –Ekiti: FNPL.

Anyebe, J. A. B (1998). *Basic Mathematics for Senior Secondary Schools and Remedial Students in Higher/ institutions,* Lagos: Kenny Moore.

Channon, J. B. Smith, A. M (2001). *New General Mathematics for West Africa SSS 1 to 3,* Lagos: Longman.

David –Osuagwu, M. name(s)? (2000). *New School Mathematics for Senior Secondary Schools,* Onitsha: Africana - FIRST Publishers.

Egbe. E name(s)? (2000). *Further Mathematics, Onitsha:* Africana – FIRST Publishers

Ibude, S. O. name(s)? (2003). *Agebra and Calculus for Schools and Colleges:* LINCEL Publishers.

Tuttuh – Adegun M. R. name(s)? (1997). *Further Mathematics Project Books 1 to 3,* Ibadan: NPS Educational