HEALTH EDUCATION / HEALTH SCIENCE

1. PREAMBLE

This examination syllabus is drawn from the Senior School Health Education curriculum and directed towards empowering students to have correct, adequate and timely information that will make them acquire attitude and practices which will restore, maintain and promote positive health.

Since Health Education is skill-based and involves knowledge, belief, attitude and practices, evidence of involvement in practical work will be determined through practical test. It is therefore, essential that the examination syllabus is used in conjunction with the Teaching curriculum.

2. OBJECTIVES

This examination syllabus is designed to assess the extent to which candidates have been able to:

(1) acquire basic knowledge of the human body and necessary skills for maintenance of health;
(2) acquire positive health practices in the school and community;
(3) identify and show the ecological relationship between man and his environment as a basis for preventing diseases;
(4) make observations and draw inferences from practical experiences that may have implications for health;
(5) develop readiness necessary for professional training in health related careers.

3. SCHEME OF EXAMINATION

There will be three papers – Papers 1, 2, and 3, all of which must be taken. Papers 1 and 2 will be a composite paper to be taken at one sitting.

PAPER 1 - **Will consist of fifty multiple-choice objective questions, all of which must be taken in 1 hour for 50 marks.**

PAPER 2 - Will consist of two sections, Sections A and B**.**

Section A will consist of six short-structured questions, all of which must be answered for 30 marks.

Section B will consist of three essay questions out of which candidates will be required to answer two questions for 40 marks. The paper will last 1 hour 30 minutes.

PAPER 3 - Will be a practical test for school candidates and an alternative test of practical work for private candidates. The paper will last for 1¾ hours and carry 80 marks.

DETAILED SYLLABUS

CONTENTS	NOTES
A. HISTORY AND DEVELOPMENT OF HEALTH EDUCATION / HEALTH SCIENCE	
1. Meaning and setting for health Education.	Students should visit to observe community, health facility and workplace-based, health education programmes and services.
(a) Meaning (b) Setting: (i) home-based; (ii) school-based; (iii) community-based; (iv) health facility-based; (v) workplace-based.	
(c) Meaning of health promotion.	
B. HUMAN ANATOMY AND PHYSIOLOGY	
1. Cells and tissues of Human Body.	
(a) Types of cell: (i) somatic cells; (ii) sex cells.	Structure of a typical animal cell and functions of its parts should be discussed.
(b) Cell division: (i) Mitosis; (ii) Meiosis	Differences between mitosis and meiosis should be emphasized.
(c) Cell differentiation: Formation of tissues, Organs and Systems.	Mention should be made of epithelial, connective and muscular tissue, an organ and a system should be explained.

CONTENTS	NOTES
(d) Growth and development	(1) Differences between growth and development should be emphasized. (2) Factors that affect growth and development should be discussed.
2. Sense Organs (a) Structure and functions of the following sense organs: (i) eye; (ii) ear; (iii) skin; (iv) nose; (v) tongue.	Accommodation should be discussed. Process of hearing and balancing should be discussed
3. Systems of the Body (a) Skeletal system and muscles (i) The general plan of the axial and appendicular skeleton.	A chart/model of a human skeleton should be examined.
(ii) Functions of the skeletal system.	Types of bones that make up the mammalian skeleton should be identified.
(iii) Joints: Structures and types.	(1) Emphasis should be on synovial joint. (2) Location of the different types of joint should be identified. (3) Specific examples should be used to illustrate the classes of levers.
(iv) Structures and types of muscles tissues.	The three different types of muscles should be discussed in relation to their functions.
(v) Movement.	Reference should be made to origin and insertion of muscles in relation to movement.
(b) Circulatory System (i) Structure and functions.	
CONTENTS	**NOTES**

(I) Heart	Candidates should examine the heart of a dissected mammal.
(II) Blood and lymph vessels	Pulse rate should be counted. The web of a toad/frog should be examined with a hand lens to observe the capillaries. The importance of lymph nodes should be mentioned.
(ii) Composition of blood and lymph	Prepared slides of blood should be observed under a microscope.
(iii) (I) Blood and lymph circulation	Pulmonary and systemic circulation should be emphasized.
(II) Process of blood clotting	
(iv) Blood groups, rhesus factors hemoglobin, genotype.	The relevance of these factors in relation to blood transfusion should be mentioned.
(v) Diseases/disorders of the circulatory system and their causes; sickle cell anaemia, leukaemia, haemophilia, arteriosclerosis, hypertension, coronary thrombosis and stroke.	(1) Heredity aspect of sickle cell and haemophilia should be discussed. (2) Prevention of anaemia and arteriosclerosis should be discussed.
(c) Digestive system	
(i) Organs of the digestive system and their functions.	Candidates should examine the alimentary canal of a dissected mammal.The location and function of accessory organs of digestion should be emphasized.
(ii) Process of digestion	Digestive enzymes should be discussed in relation to substrates and end-product.
CONTENTS	**NOTES**
(iii) Absorption, assimilation and	(1) Mention should be made of tissue respiration in relation to metabolism.

metabolism.	(2) Osmosis and diffusion should be demonstrated and their importance in absorption should be emphasized.
(iv) Diseases/disorders of the digestive system and their prevention.	Importance of proper eating habits and the effects of over-eating and under-eating should be discussed.
(d) Excretory System (i) Structure and functions of the kidney and skin.	(1) Candidates should examine the parts of the urinary system of a dissected mammal. (2) Candidates should examine prepared slides of the skin under the microscope.
(ii) Process of urine formation.	Reference should be made to the excretory functions of the lungs. The use of dialysis machine for kidney failure should be mentioned.
(e) Respiratory System (i) Structure and functions of the respiratory system	Candidates should examine the respiratory organs of a dissected mammal.
(ii) Process of respiration (I) Mechanism of breathing	Experiment to demonstrate the inhalation and exhalation of air should be performed.
(II) Gaseous exchange.	Total, complemental and residual air should be explained. Experiment to show that expired air contains more carbon dioxide and water vapour should be performed.
CONTENTS	**NOTES**
(III) Tissue/Cellular respiration. (iii) Diseases/disorders of the	

respiratory system and their control.	
(f) Nervous System: (i) Structure and functions of the components of the nervous system (ii) Voluntary and involuntary actions (iii) Diseases/disorders of the nervous system.	The brain, spinal cord and nerves should be discussed. The reflex arc should be studied.
(g) Endocrine System: Location of the different endocrine glands, the hormones produced and their functions.	(1) Characteristics of endocrine glands should mentioned. (2) Charts/models should be used to study the location of the glands. (3) The effects of over- and under – secretion of hormones should be emphasized.
(h) Homeostasis Physiological factors affecting homeostasis	(1) Body temperature, blood sugar level, water balance, electrolytes balance, pH and blood pressure should be highlighted. (2) Candidates should test urine with litmus paper and also, count pulse rate. (3) Mention should be made of the positive and negative feedback control system.
4. Posture and Postural Defects. (i) Definition; (ii) Characteristics of correct posture.	Posture should be related to the following: sitting; standing; walking and lifting.
(iii) Determination of correct postures	The roles of nutrition and exercise as determinants of correct posture should be discussed.
(iv) Types of postural defects: Flat foot; scoliosis, kyphosis and lordosis	(1) The causes of postural defects e.g. habits, accidents, heredity and diseases should be discussed.
CONTENTS	**NOTES**
(v) Effects of incorrect posture on physical appearance, position and functions of body organs.	(2) The roles of orthopaedic hospital and physiotherapy unit in the correction of postural defect should be mentioned.
C. <u>PERSONAL HEALTH</u>	

1. Meaning and importance of physical health. 2. Personal hygiene 3. Promotion and maintenance of health: (a) Definition (b) Factors and their roles in the maintenance of health. 4. Health Screening	Care of body parts including the teeth, mouth, hair, hands and nails should be discussed.
(a) Eye defects and their corrections. Myopia; Hypermetropia; Astigmatism; Presbyopia; Squints (cross eye).	The use of Snellen chart for vision screening should be mentioned. The roles of eye specialist in the correction of the defects should be discussed.
(b) Auditory defects (c) Conductive impairment	Otitis media should be mentioned
(ii) Neurosensory impairment (iii) Disorder of the skin (iv) Care of the eye, ear and skin.	The use of tuning fork; audiometer, guitar strings and wrist watch in auditory screening should be mentioned. Also, mention should be made of the sign language.
5. Dental health education (i) Meaning and types	
(ii) Types of human teeth	
(iii) Teeth diseases	**NOTES**
CONTENTS	Structure and functions of the different types of teeth should be discussed.
Dental caries and gingivitis should be mentioned.	
D. <u>COMMUNITY HEALTH</u>	
1. Community health services (a) Definition (b) Providers:	

(i) Orthodox services e.g. primary health care; (ii) Traditional services e.g. bone setters, birth attendants. (c) Community efforts in health promotion. 2. School health programme (a) Definition (b) Components (i) Skill-based health education (ii) Healthful school environment (iii) School feeding services (iv) School health and nutrition services (v) School, home and community relationship. (c) Goals and Objectives. (d) Linkages for promotion (initiatives) (i) Health Promoting School (HPS) (ii) Child-Friendly School (CFS) (iii) Focusing Resources on Effective School Health (FRESH) (iv) Life Skills (LS) (v) Education for All (EFA)	Advantages and disadvantages of traditional medicine should be mentioned. Awareness campaign should be discussed. Both physical and biological environment should be discussed.

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3. Family health (a) Meaning (b) Different aspects of family health: Maternal and child health (c) Family size and budgeting 4. Ageing and death education (a) Definition and features of the elderly. (b) Ways of relating with the elderly. (c) Meaning of grief and death. (d) Common causes of death.	Antenatal care, immunization, oral rehydration therapy (ORT), breast feeding and safe motherhood should be discussed.

5. Epidemiology and vital statistics (a) Definitions (b) Components of vital statistics (i) Birth rate (ii) Mortality rate (iii) Morbidity rate (c) Uses of the major components of vital statistics.	Candidates should be able to define epidemiology, vital statistics and population dynamics. The importance and use of health records should be stressed.
E. <u>ENVIRONMENTAL HEALTH</u> 1. Housing. (a) Criteria for good housing to include siting, ventilation, lighting and sanitation. (b) Components of a standard house. 2. Water supply (a) Definition and sources (b) Purification and uses. 3. Waste disposal (a) Meaning (b) Types: (i) refuse; (ii) Sewage. (c) Methods 4. Pollution (a) Meaning (b) Types: air, water, soil and noise	Effects of poor sanitation and pest infestation in home should be discussed. Effects of substandard housing on health should be discussed. Sources should include rain, borehole, rivers, streams, springs, well pond, pipe borne water Advantages and disadvantages of each method should be discussed.
CONTENTSNOTES	
(c) Meaning and sources of pollutants. (d) Health consequences of pollution. (C) Industrial occupation (a) Meaning (b) Programmes: Industrial health services (c) Occupational hazards (D) Pest and vector control (a) Meaning (b) Habitats of pests and vectors (c) Harmful effects and control. **F. <u>NUTRITION AND FOOD NUTRIENTS</u>**	The need for health care and rehabilitation should be discussed. The need for health insurance schemes should be stressed. Students should be able to identify to differentiate between pests and vectors.

Nutrition (i) Classes, sources and functions of food nutrients.	Tests for starch, simple and complex sugars, proteins and fats should be carried out. Local example of sources of food nutrients should be mentioned.
(ii) Caloric value of food nutrients	
2. Balanced/adequate diets (a) Definition (b) Classification (c) Nutritional problems	Caloric needs in relations to age, occupation and health condition should be discussed. Food deficiency diseases should be emphasized.
3. Factors influencing feeding habits/choice of foods	Factors responsible for unbalanced diet and effects associated with poor diet should be discussed.
4. Water	Factors should include: availability, religion education, age, belief, health condition and cost The role of water in relation to nutrition should be discussed.
5. Nutritional processes: ingestion, digestion, absorption, assimilation and metabolism and defecation/ejection.	
6. Beverages (a) Definition (b) Types and effects	Negative and positive effects should be stressed. Nutritional value of non-alcoholic beverages should be stressed.
7. Diet for different groups of people: children, male adolescent; female adolescent; athletes; pregnant women; adult and aged.	Charts should be used to show diets for the different groups of people.
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8. Food hygiene, preservation and storage (a) Meaning and Principles of food hygiene	
(b) Effects of methods of food preparation on nutrients.	Food handling; cleanliness of cooking utensils and surroundings should be discussed. Effects of poor food handling should be stressed.
(c) Methods of food preservation: Smoking/drying/dehydration, Freezing/refrigeration, addition of chemicals/sugar salts, Bottling/pickling/canning.	Effects of washing, boiling, frying, baking and roasting should be discussed. The processes, advantages and disadvantages of each method should be discussed.
	Qualities of First Aider should be stressed. Both standard and improvised kit should be discussed in relation to their uses.
	The causes and characteristics of each condition should be discussed. Respective care where

G. SAFETY EDUCATION AND FIRST AID

1. First Aid
   (a) Meaning/aims and principles of first aid
   (b) First aid kit
   (c) Specific emergency conditions cuts; Wounds; bleeding; dislocation; fractures; burns; scalds; shocks; asphyxia/suffocation; poisoning.

   (d) Agencies providing First Aid Services.

   (e) Disaster
      (i) Meaning and types
      (ii) Disaster relief activities

   (f) Accident
      (i) Types and causes
      (ii) Prevention

   (g) Disability and rehabilitation
      (i) Meaning
      (ii) Types and prevention.

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H. DRUG, ALCOHOL AND TOBACCO EDUCATION

1. Drug Education
   (a) Terminologies in drug education
   (b) Classes of drugs commonly abused.

   (c) Ways of taking drugs into the body

   (d) Drug abuse and consequences of self-medication.

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Mention should include drug abuse, drug dependence, drug misuse, drug addiction, self medication, alcoholism, rehabilitation

This should include oral, injection, inhalation, topical and anal.

Prevention of drug abuse should be highlighted.

Reasons for smoking and the methods of controlling smoking should be discussed.

Reasons for drinking alcohol and methods of controlling drinking should be discussed.

2. Behaviour altering chemicals
   (a) Tobacco

(i) Components

(ii) Effects of smoking on health.

(b) Alcohol on health
Effects of alcohol on health.
(c) Drugs
Effects of drug on health

I. COMMUNICABLE AND NON COMMUNICABLE DISEASES

1. Diseases
Meaning and classes of diseases.

2. Communicable diseases
   (a) Definition
   (b) Classification of communicable diseases.

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(i) Air-borne/Respiratory diseases
Common cold, measles, whooping cough, poliomyelitis, tuberculosis and cerebro-spinal meningitis, diphtheria.

The life cycle of the pathogen of each disease should be discussed.

(ii) Water/food-borne diseases: Dysentery, cholera, typhoid fever and schistosomiasis, guinea worm

(iii) Insect-borne diseases: Malaria, yellow fever, trypanosomiasis and filariasis

The life cycle of each worm should be discussed with the aid of a chart.

(iv) Worm infection:
(i) Ascaris lumbricoides (round worm)
(ii) Taenia solium (tape worm)
(iii) Ancylostoma duodenale (Hook worm)
(iv) Dracunculus medinensis (Guinea worm)

Bacteria, fungi, viruses, protozoa and worms should be mentioned as causative agents.

Reference should be made to immunization

(v) Animal-borne diseases rabies, leptospirosis

(vi) Contact diseases:Gonorrhoea, syphilis, Tinea pedis (athlete's foot), Tinea capitis (ringworm) leprosy, scabies and Acquired immune Deficiency Syndrome (AIDS)

(c) Factors necessary for communicable diseases to occur:

(i) Causative agent

(ii) Susceptible host;

(iii) Transmission route (environment)

(d) Non-communicable diseases: Types

(i) Deficiency (scurvy, pellagra, rickets, Kwashiorkor, anaemia, beriberi etc)

(ii) Diseases due to growth in cells, heredity and normal disorders (cancer, diabetes, epilepsy, haemophilia, heart disease, hypertension. Ulcer, mental illness, sickle cell, rheumatism, infertility, asthma, albinism etc.

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J. FAMILY LIFE AND HUMAN SEXUALITY EDUCATION

1. Human Reproduction

(a) Definition of terms: Reproduction; sex gametes; ovulation; menstruation; fertilization; pregnancy and gestation.

Secondary sexual characteristics in boys and girls should be discussed.

(b) Structures and functions of male and female reproductive organs.

Candidates should observe/study the parts of the reproductive organs in a mammal. Menstrual cycle, sex determination, ante-natal care should be discussed.

(c) Conception, pregnancy, foetal development and child birth

Causes of infertility should be discussed.
Artificial insemination and text tube babies should be explained.

(d) Diseases/disorders of the reproductive system

Meaning of sexuality, sexuality education, sexual reproductive health rights, gender and equality should be discussed.

2. Human Sexuality Education

(a) Meaning and importance

Difference between assertive and communication skills as applicable to sexuality should be discussed.

Characteristics of a happy family and the roles of each member should be discussed. Factors influencing family life should be emphasized.

Life skills (assertiveness, negotiation and communication skills) **3.** Family and family member roles. (a) The family – Meaning and types (b) Family size **4.** Family life challenges: widowhood; single parenthood, pre-marital and extra-marital affairs, in-laws etc. (a) Agencies promoting healthy family living **5.** Family planning and safe motherhood. (a) Meaning and need for family planning	
CONTENTS	**NOTES**
(b) Birth control methods (c) Safe motherhood 5. Population Education (a) Meaning of population and population education. (b) Census and its problems (c) Small and large population **K. <u>EMOTIONAL AND SOCIAL HEALTH</u>** 1. Interrelationship 2. Attributes: (a) Definition of personality and personality traits (b) Personality problems and solution 3. Mental health: (a) Definition (b) Promotion (c) Types and prevention (d) Importance **L. <u>CONSUMER HEALTH EDUCATION /</u>**	Candidates should be able to distinguish between family planning and safe motherhood. Candidates should be able to distinguish between population and census. Advantages of accurate census should be discussed. Meaning and the interrelationship between emotional health and social health should be discussed. The attributes of emotional and social health should be discussed. Candidates should be able to identify personal problems and proffer solutions. Candidates should be able to state factors that promote mental health. Types, causes prevention and management of mental health should be discussed.

HEALTH SCIENCE 1. Consumer health products and services 2. Laws protecting the consumer	Importance of mental and social health should be discussed. 1. The importance of checking label expiry dates on products before purchase should be highlighted. Various agencies promoting consumers health should be discussed. Mention features of genuine products and services

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3. Factors influencing choice of consumer products; Authenticity; cost; availability; accessibility and advertisement. 4. Consumer health care services	Various types of health services: traditional medicine, orthodox medicine, alternative methods of healing (acupuncture, yoga and faith healing) should be discussed.
5. Quacks and quackery meaning and types	1. Different types of quackery such as mechanical, electrical, drug and cosmetic and medical quackery should be discussed 2. The danger of quacks and quackery should be highlighted.
6. Health insurance and advertisement of health products and services	1. Meaning and importance of health insurance 2. State of health insurance 3. Advertisement of health products and consumer services.
7. Nostrum: (a) Definition and types (b) Reasons for avoiding nostrum.	Types should include: (1) Health tonic; (2) Miracle substances; (3) Magic potions; (4) Amulets and talisman.

Materials needed in Health Education Laboratory/Examination

1. Models of various organs of the body;

2. Models of various parts of the body e.g. tooth;
3. Human skeleton;
4. Bones of the body;
5. Contraceptive devices;
6. Reagents for testing of starch, protein, fat;
7. Road safety signs;
8. Different types of safety equipment;
9. Posters/charts of systems of the body e.g. reproductive, digestive, excretory;
10. First aid box and kits;
11. Fire extinguisher;
12. Sand bucket;
13. Photographs of health facilities and workers e.g. doctors , nurses, dentist at work;
14. Photographs of methods of sewage and refuse disposals;
15. Microscope
16. Stethoscope
17. Preserved worms;
18. Preserved pests and vectors
19. Photographs/posters of various types of communicable and non-communicable diseases;
20. Model/poster showing parts of the body;
21. Materials for personal hygiene e.g. toothpaste, comb, toothbrush;
22. Dissecting set
23. Photographs/posters of accident scenes;
24. Photographs/posters showing methods of food preservation
25. Photographs/posters showing disaster scenes;
26. Safety;
27. Photographs/posters of drugs commonly misused/abused
28. Tobacco products;
29. Hand lens;
30. Real objects/photographs/poster/charts of classes of food;
31. Photographs/posters showing correct postures
32. Photographs/posters showing postural abnormalities;
33. Poster/real object of sphygmomanometer, thermometer, litmus paper Snellen chart.