

LEBANESE AMERICAN UNIVERSITY

OFFICE OF TESTING SERVICES

TEST PREPARTION MATERIAL

Sophomore Examination

Freshman Examination

English Entrance Examination

Test Preparation Material

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Preface

The Sophomore Examination (SE), the Freshman Examination (FE) and the English Entrance Examination (EEE) are internal tests administered by the Lebanese American University to test the student's knowledge of the basic concepts in the different subject matters.

The SE tests attempt to present a fair coverage of all topics that the Secondary Program offers in the subject matters of Mathematics, Physics, Chemistry, Life Sciences and Philosophy, Economics & Sociology. They stress comprehension rather than memory work.

The FE tests cover the material taught in the high-school programs in the subject matters of Mathematics, Physics, Chemistry, Biology, and Social Sciences subject matters.

The objective of the tests is to assess the student's analytical ability to apply general principles and %L# theories through multiple choice questions.

N.B. This syllabus is comprehensive but not restrictive; it shall serve as a guideline for students preparing for the Sophomore, Freshman and English Entrance Examinations.

The English Entrance Examination (EEE) is designed to determine the candidate's English proficiency level in order to follow a university program in the medium of English.

I- Test taking Tips Test Preparation Material

Study these tips before you take the test

1-Do the easy questions first:

Rather than spending too much time on one question, first answer those questions you think you know, and skip those questions that seem too difficult. Return to the omitted questions once you have completed the test, if you have time.

If you do skip a question, make sure to mark your answers to subsequent questions in the right place on your answer sheet.

2-Guess wisely:

If you can rule out one or more answer choices for a multiple - choice question as definitely wrong, your chances of guessing correctly among the remaining choices improve.

3-Learn how to navigate your answer sheet:

The SE and FE answer sheets have 3 sections for 3 different subject matters that the applicant has to take.

The EEE answer sheet has 2 sections and 2 parts.

Make sure to mark your answers in the correct parts and sections.

4-The answer sheet has five answer circles for each question:

Some questions have only four answer choices. You will not get credit for your response if you mark the fifth circle (E) for a four- choice question.

5-Mark only one answer to each multiple-choice question:

To be certain that the scanning machine will read your answer; make sure to darken completely the circle as shown in the example section of the answer sheets.

6-Don't make extra marks on your answer sheet:

Your answer sheet is scored by machine that can't tell whether you meant to mark an answer or not.

7-Change of answer:

If you want to change your mind about an answer, make sure to erase the first mark completely before you put the new one.

II- Sophomore Examination SE Test preparation material:

Mathematics

General Sciences Section

I- Algebra

- 1-Complex Numbers
- 2-Logic
- 3-Equations with Complex Coefficients

II- Geometry

- 1-Vector Product & Triple Scalar product
- 2-Planes & Lines
- 3-Metric Relations in a Triangle
- 4-Conics
- 5-Dilations (Homotheties)
- 6-Direct Plane Similitude

III- Statistics and Probability

- 1-Measures of Central Tendency
- 2-Measures of Dispersion
- 3-Combinations
- 4-Probability & Conditional Probability

IV- Calculus

- 1-Irrational Functions
- 2-Continuity
- 3-Inverse Functions
- 4-Trigonometric Functions and their Inverses
- 5-Logarithmic and Exponential Functions
- 6-Differentiation and Integration
- 7-First Order and Linear Second Order Differential Equations
- 8-Sequences
- 9-Random Variables (mean variance)

Life Sciences Section

I- Algebra and Geometry

- 1-Complex Numbers
- 2-Vector Product & Triple Scalar Product
- 3-Planes & Lines

II- Statistics and Probability

- 1-Measures of Central Tendency
- 2-Measures of Dispersion
- 3-Combinations
- 4-Probability & Conditional Probability
- 5-Random Variable

III- Calculus

- 1-Continuity
- 2-Inverse Functions
- 3-L'Hopital's Rule
- 4-Logarithmic & Exponential Functions
- 5-Circular Functions
- 6-Differentiation and Integration
- 7-First Order and Linear Second Order Differential Equations

Literature And Humanities Section

I- Algebra

- 1-Logic
- 2-Quadratic Equations
- 3-Solving Equations! Inequalities
- 4-Simple/Compound Interest

II- Probability and Statistics

- 1-Position Measures of a Statistical Data
- 2-Dispersion Measures of a Statistical Data
- 3-Permutations
- 4-Probability & Conditional Probability

III- Calculus

- 1-Limits
- 2-Continuity
- 3-Derivatives & Applications
- 4-Variation of Functions
- 5-Antiderivatives
- 6-Rational Functions
- 7-Graphical Interpretation
- 8-Exponential Functions

NB.: Some questions were taken from the 2nd secondary curriculum

Economics and Sociology Section

I- Algebra

- 1-Regression Lines
- 2-Interest & Annuity

II- Probability and Statistics

- 1-Measures of Central Tendency
- 2-Measures of Variability
- 3-Combinations
- 4-Conditional Probability & Total Probability
- 5-Random Variables

III- Calculus

- 1-Functions (Rational, Composition of, Inverse of)
- 2-Logarithmic & Exponential Functions
- 3-Differentiation
- 4-Integration
- 5-Numerical Sequences
- 6-Functions of Economics & Social Sciences

Physics

General Sciences and Life Sciences Sections

I- Mechanic

- 1-Energy
- 2-Mechanical Oscillations
- 3-Forced Oscillations - Resonance/Experimental Evidence

II- Electricity

- 1-Electromagnetic Induction
- 2-Self-Induction
- 3-Alternating Sinusoidal Current
- 4-Transformers
- 5-Electromagnetic Oscillations

III- Aspects of Light

- 1-Wave aspect of light - Diffraction
- 2-Interference of light
- 3-Corpuscular aspect of light-photoelectric effect

IV- Atom and Nucleus

- 1-Atom - Nucleus
- 2-Radioactivity
- 3-Nuclear Reactions

Literature And Humanities Section

I- Energy

- 1.Work and Mechanical Energy
2. Forms of Energy
3. Sources of Energy and the Pollution they Cause

II- Radioactivity and Nuclear Reactions

1. Radioactivity
2. Fission and Fusion
3. Applications and Dangers of Radioactivity

III- The Universe

1. History and Development of Astronomy
2. The Solar System
3. Instruments and Means of Observation of the Universe
The spatial astronomy
4. The Universe: Origin and Evolution

IV- Petroleum and Economy

1. Economics and Petroleum
2. Economics of Petroleum
3. Transportation

Chemistry

General Sciences and Life Sciences Sections

I- Stiochiometry of Reaction (Mol/Mass)

II- Redox Reactions

III- Gases

Gas Laws, equations and Stiochiometric relations

IV- Kinetics or Dynamics (Rate of Chemical reaction)

Definition, Determination and factors affecting rate

V- Chemical Equilibrium

1. Le Chatelier's Principle (Shifting of an equilibrium reaction)
2. Equilibrium expressions and calculations

VI- Acid/Base Properties and Reactions

1. Concentration / Calculation
2. PH scale, pH calculation and Titration curves
3. Conjugate acid/base pair concept, K_a relation
4. Reaction of weak acid and weak base concept
5. PH and indicator, Buffer solution

VII- Organic Chemistry

Calculations, properties and reactions of:

Alkanes, Alkenes, Alkynes, Benzene, Alcohols, Carbonyls, Carboxylic

Acids, Amines, and Amino acids, proteins and peptides.

VII- Polymers

1. Natural and synthetic polymers
2. Impact on Environment

IX- Soap and Synthetic Detergents

Preparation, properties, and composition

X- Drugs

Classification and usage of each drug

General Science

A - PHYSICS

Literature And Humanities Section

I- Energy

- 1-Work and Mechanical Energy
- 2-Forms of Energy
- 3-Sources of Energy and the Pollution they Cause

II- Radioactivity and Nuclear Reactions

- 1-Radioactivity
- 2-Stimulated Nuclear Reactions: Fission and Fusion
- 3-Applications and Dangers of Radioactivity

III- The Universe

- 1-History and Development of Astronomy
- 2-The Solar System
- 3-Instruments and Means of Observation of the Universe
- 4-The spatial astronomy
- 5-The Universe: Origin and Evolution

IV- Petroleum and Economy

- 1-Petroleum
- 2-Economics of Petroleum
- 3-Transportation

B – CHEMISTRY

Literature and Humanities Section

I- Food Chemistry

- 1-Carbohydrates, proteins, lipids, vitamins and minerals (definitions, classification, properties, identification and their role in human body)
- 2-Nutritional requirement of human body (energy, growth and maintenance requirements)
- 3-Balanced diet and health and the effect of cooking on the nutritive value of food (proteins, lipids, carbohydrates, vitamins and minerals)

II- Perfumes and Cosmetics

Active ingredient in cosmetics and health risks of cosmetic use

III- Medicinal Drugs (Analgesics, Anesthetics, Anti-Acids, Anti-Inflammatory, Antibiotics, Tranquilizers).

1-Properties

2-Active ingredient, brand name, side effects and overdose effect

IV- Water, Soil, solid and Hazardous Wastes Pollution

1-Sources, list of pollutants, types and their health effects

2-Treatment methods for purification and disposal methods

V- Chemical Industry - Lebanon (Cement, Ceramics, Glass Fertilizers, Food, Paper, Soap and Detergent).

General idea of the chemical constituent of these industries

C- BIOLOGY

Literature and Humanities Section

I-The Role of Nutrients in the Human Body

1-Energy balance and metabolism

2-Nutritional requirements

3-Clinical nutrition

II- Integration and Control: Nervous System

1-Structure of the nervous system

2-Neural control: neurons and the neural circuits

3-The synapse

4-Receptors and effectors

III- Integration and Control: Endocrine System

1-Endocrine glands

2-Hormones as chemical coordinating messengers

IV- Drugs

1-Classes of drugs

2-Addiction

3-Mode of action

V-Molecular Biotechnology and its Application

1-Health

2-Agriculture

3-Environment

Life Science Section

Life Science

I- Basic Human Genetics

1. The rules of inheritance
2. Human pedigrees
3. Genetic practices and prospects (RFLP, DNA fingerprinting, gene mapping and sequencing, etc)
4. Genetic screening and prenatal diagnosis
5. Genetic diseases

II- The Human Reproductive System

1. Male and female reproductive System: structure and functions
2. Principles of sexual reproduction (meiosis, gametes and gametogenesis, etc...)
3. Hormonal control
4. Birth control

III- The Immune System

1. General defenses against invasion
2. Nonspecific resistance: external and internal
3. Specific resistance (antigens and antibodies and B cells, active and passive immunity, etc...)
4. Immunological memory

IV- Nerve Cells

1. Electrical signals (membrane potential, action potential, conduction, etc...)
2. Chemical signals (synapses, neurotransmitters, etc...)
3. Concepts of sensory reception
4. Nerve action and neural circuits

V- The Brain and the Spinal Cord

1. Structure and function
2. Spinal reflexes
3. Sensory and motor activities

- VI- Blood Sugar Homeostasis**
1. Carbohydrate metabolism
 2. Regulation of blood sugar level

PHILOSOPHY

Literature and Humanities Section

I- General Philosophy

The Pre-Socratic philosophers Socrates, Plato, Aristotle

II- Man

III- Society and the State

1. Social, Political and Economic theories
2. Labor and social hierarchy

IV- Knowledge

1. Theories, kinds, and methods of knowledge
2. Science, technology and society
3. Logic
4. The problematic of truth

V- Metaphysics

1. Religious Theories
2. Philosophy and Religion

VI- Ethics

1. Moral values
2. Personal, political, social and economic morality
3. Ethical theories

Economics And Sociology Section

I- Introduction to Philosophy

II- Man

III- Knowledge

Theories, kinds and methods of knowledge

IV- Ethics

1. Moral values
2. Personal, political, social and economic morality
3. Ethical theories

Economics and Sociology Section

A - Economics

I- Economics

- 1-Economic growth: The theory of W.W. Rostow
- 2-Economic Development
 - Indicators - Measuring & Computing Economic, Health, and Demographic Indicators
- 3-Approaches to Economic Development and the Role of Government
 - a) Approaches to Economic Development
 - Liberal, Social and Communist, and Current Approaches
 - b) Economic Role of the Government
 - i- Fiscal and Monetary policies
 - ii- Treatment of inflation and unemployment
 - iii- Supportive Role to Industrial and Agricultural Sectors
- 4-Production
 - a) Concepts, Meaning, and Computations of:
 - i- Variable, Fixed, Total, Average, and Marginal Costs
 - ii- Elasticity of Production
 - b) Investments

II- Finance

- Interest: Meaning and Computations of:
- a) Simple and Compound Interests
 - b) Present Value and Investment Appraisal

III-Management

- 1-The Functions of Management
 - Planning, Organizing, Controlling, Coordinating, and Directing (Orienting)
- 2-Decision Making Process
 - a) Elements and levels of Decision Making
 - b) Decision Making Process
 - c) Innovative Approach to Decision Making

B - Sociology

I-Sociology: Origins, Approaches, Methods of Research and Techniques

1-Intellectual origins of sociology: Montesquieu, Augustus Comte, Max Weber, and Karl Marx. How did their ideas influence the development of sociology?

2-Social transformations and the emergence of sociology: The development of capitalism, the emergence of the working class in Europe, the French Revolution, the Industrial Revolution.

3-Sociological Approaches (or Approaches to doing social research): Historical approach, experimental approach, and statistical approach.

4-Methods of conducting social research: Survey method, study of monographs, case study.

5-Research Techniques. (Steps to be followed in conducting research): Identifying the problem, gathering, classifying & analyzing data explaining.

II- Social Stratification and Systems of Social Stratification

- 1- Defining social stratification
- 2-Theories explaining social stratification: Functional theory, Marxist theory, Weber theory
- 3- Different forms of social stratification
- 4- Defining social classes

III- Social Mobility

- 1- Defining social mobility
- 2- Theories about social mobility
- 3- Causes of social mobility

IV- Dimensions of Social Differentiation

- 1- Sociological dimension of social differentiation
- 2- Cultural dimension of social differentiation
- 3- Economic dimension of social differentiation
- 4- Demographic dimension of social differentiation

V- Integration and its Relation to Social Differentiation

- 1- Stages of Integration
- 2- Social adaptation

VI- Social Formation and Social Change

- 1- Defining social change
- 2- Types of change: natural (evolutionary) vs. Radical change
- 3- The Marxist theory of change
- 4- Indicators of development and under-development
- 5- Causes of change: internal and external

VII- Social Policy

- 1- Definition
- 2- Types of social policy
- 3- Social policy in socialist, welfare, and liberal states
- 4- Examining economic and social policy under the welfare state

VIII- The Lebanese Society

- 1- The bases of Lebanese
- 2- The Lebanese' Confessional System
- 3- The Lebanese Family
- 4 - Civil Society, Civic Society and Political Society in Lebanon

IX- Culture and Society

- 1-The meaning of culture
- 2- Sociological and anthropological theories about culture
- 3- Main sources of culture
- 4- Modernization and its effects on local cultures

III- Freshman Examination FE Test preparation material:

Mathematics

I- Algebra

1. Matrices & Determinants
2. Parabolas
3. Polynomial Functions
4. Powers, Roots & Complex Numbers
5. Quadratic Equations
6. Relations & Functions
7. Systems of Equations
8. Trigonometric Identities

II- Calculus

1. Derivatives
2. Inverse Trigonometric Functions
3. Limits
4. Maxima-Minima
5. Param. Equation of a Line in Space
6. Simple Curve Sketching
7. Tangent Lines & Derivatives
8. Exponential of Logarithmic Functions
9. Sequences & Series

III- Geometry

1. Areas & Perimeter of Polygons
2. Lines, Distance, Circles
3. Locus
4. Right Triangles
5. Surface Area & Volume of Prisms
6. Transformations
7. Conics
8. Vectors
9. Cross and Scalar Product of two Vectors

IV- Probability and Statistics

1. Counting
2. Probability
3. Statistics

Physics

I- General

- 1- Measuring systems
- 2- Standard units for the metric system (length, mass, time)
- 3-The slope of a straight line
- 4- Areas and Volumes of regular-shaped bodies
- 5 -The density of a body

II- Motion

- 1- Components (speed, velocity, acceleration, force)
- 2- Rectilinear motion
- 3- Free fall
- 4- Projectile

III- Patterns of Motion

- 1- Newton's law
- 2- Momentum
- 3- Forces and circular motion
- 4- Newton's law of gravitation
- 5- Pressure (hydrostatic)

IV- Energy

Work, motion, position, and energy

V- Heat and temperature

- 1-The Kinetic Molecular Theory
- 2-Temperature: thermometers - different scales
- 3- Heat
- 4- Energy, heat, and molecular theory

VI- Gas Properties

- 1- Boyle's law and Charle's law
- 2-The combined Boyre-Charle's law

VII- Wave, Motions and Sounds

- 1- Forces and elastic materials
- 2- Waves, Wave terms, Sound waves
- 3- Energy and sound: loudness, resonance
- 4- Sources of sounds

VIII- Electricity and Magnetism: General Idea

- 1- Electric charge and Electric current
- 2- Magnetism
- 3- Electric currents and magnetism
- 4- Electromagnetic induction

IX- Light

- 1- Sources of light
- 2- Properties of light reflection, refraction, etc...
- 3- Geometrical optics

CHEMISTRY

I- Definition of Acid, Base and Salt

II- Matter and Energy

III - Mixtures, Solutions, Compound and Element

IV- Physical Properties and Chemical Properties of Substances

V- Properties Related to the Phases of Substances

VI- Scientific Method of Analysis

VII- Stiochiometry, Mole/Gram Relationship

VIII- Chemical Formula and Chemical Equation

BIOLOGY

I- Simple Basic Themes in Human Body

II- The Molecular Bases of Life

III- Cell Structure and Function

IV- Levels of Organization of the Human Body (Tissues, Organs, Systems)

V- The Integumentary System: Structure and Function

VI- The Skeletal System: Structure and Function

VII- The Muscular System

VIII- The Respiratory System: Anatomy and Physiology

IX- The Digestive System And Nutrition
1-Digestive organs

- 2- Digestion and absorption
- 3- Healthy nutrition and daily caloric needs
- X-** The Excretory System: Anatomy and Physiology
- XI-** The Blood and the Cardiovascular System
- XII-** The Immune System
 - 1- Functions of the immune system
 - 2- Non-specific & Specific immune response
- XIII-** The Nervous System
 - 1- Central and peripheral nervous systems
 - 2- Cells of the nervous system and transmission of impulses
- XIV-** The Endocrine System: Structure and Function
- XV-** The Reproductive system
 - 1- The human reproductive systems
 - 2- Fertilization and birth control
- XVI-** Ecology
 - 1- Populations, communities and ecosystems
 - 2- Interactions between living things

SOCIAL SCIENCES

General Ideas about the Following Topics

- I- Political Theories and Ideologies (pre-20th century)**
 - 1- Rousseau (Social Contract)
 - 2- Karl Marx (Marxism)
- II- 20th Century Ideologies**
 - 1- Communist Ideologies
 - 2- Ideologies of Extreme Nationalism (Nazism, Fascism)
 - 3- Modern Liberalism and Conservatism
 - 4- Environmentalism, Feminism
- III- American and French Revolution**
 - 1- Ideals of each revolution
 - 2- Consequences of French revolution
- IV- Industrial Revolution**

- 1- Causes
- 2- Consequences

V-European Wars of the 19th Century

- 1- The Napoleonic wars
- 2- The concert of Europe
- 3- The Franco-Russian war

VI- Colonialism and Imperialism: 19th and Early 20th Century

- 1- The colonization of Africa
- 2- Imperialism in Asia

VII- World War I

- 1- Causes
- 2- How the war was fought
- 3- The Russian Revolution of 1917 - Russia exits WWI
- 4- US entry to the war
- 5- Consequences of the war (League of Nations)
- 6- The Mandate system in the Middle East

VIII- The Inter-War period

- 1- Great Depression
- 2- Revival of Germany and Russia (USSR)
- 3- Italian invasion of Ethiopia, failure of the League of Nations

IX- World War II

- 1- Causes
- 2- How the war was fought
- 3- The atomic bomb and ending the war
- 4- Consequences of WWII - United Nations, and specialized bodies
- 5- The decolonization movement

X- The Post-War Bipolar System (till end of the 1960s)

- 1- Causes of the Cold War
- 2- The rival alliance systems
- 3- European recovery and European integration
- 4- The Cold War in the Third World
- 5- Rise of non-European powers

XI- Dentente and Beyond

- 1- How detente emerged
- 2- Consequences of relaxations of East-West tensions in the 1970s
- 3- The quadrupling in oil prices and the energy question
- 4- Reagan and the return to Cold War
- 5- The end of the Cold War

XII- Beyond the Cold War: The World in the 1990s

- 1- The collapse of the Soviet Union and of Communism in Eastern Europe
- 2- American power in the 1990s
- 3- The European community

XIII- The Middle East in the 1990s

- 1- Second Gulf War
- 2- End of Lebanese War
- 3- Arab Israeli Wars
- 4- The Middle East Peace Process

XIV- Major Ecological Challenges in the 1990s

- 1- The Population challenge
- 2- The Food Challenge
- 3- Pollution and environmental degradation

XV- Nationalism, Nationhood, Separatist Movements

- 1- Elements of nationhood
- 2- Separatist movement

XVI- World Wide Distribution of Wealth between Poor and Rich Nations

IV- EEE- ENGLISH ENTRANCE EXAMINATION

The English Entrance Examination focuses on assessing the student's ability in grammar, writing, vocabulary, and reading comprehension skills. There are 150 multiple choice questions and a composition; all to be completed within two hours and thirty minutes. The three sections are separately timed.

Section I

Structure and Written Expression 45 minutes

Section II

Reading Comprehension and Vocabulary 45 minutes

Section III

Writing Composition 60 minutes

Structure and Written Expression Section I

This section is designed to assess the candidate's ability to recognize standard written English. There are two types of questions in this section with directions for each.

Part A: Grammar

In this part the student's competence in the following skills will be tested

- A- The noun phrase
- B- The verb phrase Tenses and aspects
- C- Subject - verb agreement
- D- Pronouns
- E- Verbs as compliments
- F- The verb need
- G- Questions
- H- Affirmative agreement
- I- Negative agreement
- J- Negation
- K- Commands
- L- Model auxiliaries
- M- Adjectives and adverbs
- N- Comparisons
- O- Nouns functioning as adjectives + adjectives with editing
- P- Enough with adjectives, adverbs and nouns

- Q-** Cause connectors
- R-** Passive voice
- S-** Causative verbs
- T-** Relative clauses
- U-** Subjunctive
- V-** Inclusive / coordination
- W-** Clauses of concession
- X-** Problem verbs

Sample Questions:

Directions: In each question, the sentence is incomplete. Following the sentence are four choices of words, which might be used to complete the sentence. You are to select the word that best completes the sentence. Then, on your answer sheet find the number of the question and mark your answer.

Examples:

1- John _____ a cold, so he stayed home.

- A-had been
- B-could had
- C-had
- D-can have

2- People travel more _____ plane these days.

- A-by
- B-on
- C-in
- D-along

Part B: Sentence Structure

In this part the student's competence in the following skills will be tested

- A-** Sentence construction
- B-** Coordination
- C-** Subordination
- D-** Phrases
- E-** Punctuation

- F- Prepositions
- G- Verbal Idioms
- H- Two- word verbs
- I- Combinations with prepositions
- J- Slang Expressions
- K- Participles as adjectives.
- L- Diction
- M- Usage common mistakes (already - all ready; there - their; its - it's)

Sample Questions:

Directions: In each question, the sentence has four words or phrases underlined. The four underlined parts of the sentence are marked (A), (B), (C), and (D). There is a mistake in spelling, structure, idiom, punctuation or vocabulary in one of these parts. You are to identify the one word or phrase that should be corrected or rewritten. Then, on your answer sheet, find the number of the question and mark your answer.

Examples:

- 1- Tony likes to get up at 6:00 a.m., so he always disturb his roommate's sleep.
A B C D
- 2- English classes are too important at school and university.
A B C D

Reading Comprehension and Vocabulary Section II

This section is designed to measure the candidate's ability to read and understand vocabulary in context.

Reading Comprehension and Vocabulary

In this part the student should show basic understanding of the passage based on the following:

- A-Main Idea
- B-Rhetorical Organization
- C- Stated Details
- D-Implied Meaning
- E-Author's Purpose
- F-Appropriate Title
- G-Possible Readership
- H-Pronoun Reference
- I-Structural, Discoursal links
- J-Vocabulary in Context

Sample Passage and Questions:

Directions: There are three different reading passages each followed by questions about the passage. You should read each passage carefully and then try to answer the questions as quickly and correctly as you can.

What kind of human being will the future spaceman be?

Will he need bones of steel and powerful muscles to resist rocket thrust, the lungs of a glass blower, a mighty heart, the body of acrobat, unconscious death urges, or a schizophrenic drive toward isolation? Popular ideas of a spaceman tend to be weird composites of comic-book, fiction and fact.

A more realistic **portrait** emerges from the young science of bioastronautics, the newest and strangest of medical disciplines. The astronaut may be described as a youngish man of high intelligence who is normal to an abnormal degree. On earth he may well have been a skin diver, high diver, tumbler, pole vaulter, or acrobat. He must be highly motivated, carefully trained - and he must want to come back. His heart and lungs must be healthy but need not be exceptionally developed, for his cabin will be pressurized. Huge muscles may actually be a handicap, for he will have almost no way to get exercise, and he will find that the strength of a year-old child is adequate in the weightlessness of space. A compact body and a

short, sturdy neck will help him to withstand the tremendous forces encountered at take-off. Most important physically, his digestive system must be one that will not be upset by weightlessness; he must not be subject to motion sickness.

- 1- Comic-book fiction has led many people to believe that the ideal spaceman would be a
 - A- glass blower
 - B- schizophrenic
 - C- superman
 - D- physicist

- 2- Bioastronautics is most closely related to the science of:
 - A- medicine
 - B- astronomy
 - C- astrology
 - D- acrobatics

- 3- An astronaut must have
 - A- average intelligence
 - B- superior intelligence
 - C- below average intelligence
 - D- subnormal intelligence

- 4- Which of the following is not mentioned as a possible future spaceman?
 - A- diver
 - B- acrobat
 - C- fullback
 - D- pole vaulter

- 5- The spaceman of the future
 - A- must not be concerned about his fate
 - B- should have an unconscious wish for death
 - C- should have a strong suicide complex
 - D- should have a strong desire to survive

- 6- A training school for astronauts would most likely not have which of the following in its curriculum?
 - A- weight lifting
 - B- tumbling
 - C- aeronautics
 - D- physics

- 7- In space, having huge muscles may be
A-an absolute necessity
B-helpful
C-a handicap
D-more important than having intelligence
- 8- Most important, physically, to the spaceman is
A-huge muscles
B-a strong digestive system
C-an exceptional heart
D-a long neck
- 9- A person would be unqualified for space travel if he
A-gets seasick
B-has only normal lung development
C-is highly motivated
D-is young
- 10-The purpose of the writer seems to be
A-to disprove some misconceptions concerning spacemen
B-to portray realistically an ideal future spaceman
C-to encourage young men to prepare for future space travel
D-both A and B
- 11-An appropriate title for the passage is
A-The Space
B-The Future
C-Man's Anatomy
D-The Future Spaceman
- 12-The word "portrait" in paragraph 3 means
A-picture
B-imagery
C-painting
D-life
- 13-The passage gives
A-a story
B-reasons
C-descriptions
D-effects

14-The possible reader is

- A-A scientist
- B-A teacher
- C-A psychologist
- D-Interested people

15-The word “for” in paragraph 4, sentence 1, shows a relationship of

- A-addition
- B-reason
- C-contrast
- D-comparison

Writing Composition Section III

A student’s competence in the following skills will be tested:

A-Content

- 1-Relevance of ideas
- 2-Development of ideas

B-Organization

- 1-Introductory, body and concluding paragraphs
- 2-Thesis and topic sentences
- 3-Supporting sentences

C-Coherence (clarity)

- 1-Transitions
- 2-Pronoun reference
- 3-Logical order of ideas

D-Sentence construction

- 1-Correct word order
- 2-Complete sentences
- 3-Variety of sentence types
- 4-Coordination and subordination

E-Vocabulary

- 1-Range of words

2-Appropriate use of words

F-Grammar

- 1-Subject-verb agreement
- 2-Parts of speech
- 3-Tenses
- 4-Phrases and clauses

G-Language Mechanics

- 1-Paragraph format
- 2-Punctuation
- 3-Capitalization
- 4-Spelling
- 5-Handwriting

Directions: Candidates will be required to write a well-developed composition of approximately 1 1/2 -2 pages on a set topic using the different development types of writing such as description, narration and exposition (comparison, contrast, cause, effect, illustration, definition etc.).The topics are of a general nature in the fields of business, history, literature, sciences or the social sciences. Candidates will be evaluated on their ability to demonstrate correct and effective production in the writing skill areas in this syllabus as well as to support the ideas with their own experiences and/or knowledge on the topic.

Sample Topics:

- 1. In our days, young people often feel bored. Give reasons why?**

- 2. Success means different things to different people. What is your idea of a successful person?**

- 3. Peace is often preached or spoken about but not practiced. Why do you think this is the case?**

- 4. If you were given the authority, how would you organize your high school to make it better?**