

SYLLABUS

MANONMANIAM SUNDARANAR UNIVERISTY, TIRUNELVELI-12

UG COURSES – AFFILIATED COLLEGES

B.Sc. PHYSICAL EDUCATION, HEALTH EDUCATION AND SPORTS

(Choice Based Credit System)

(with effect from the academic year 2021-2022 onwards)

Semester-I				
Part	Subject Status	Subject Title	Subject Code	Credit
I	Language	Tamil	C1TL11 / C1MY11	4
II	Language	English	C2EN11	4
III	Core I	Foundation of Physical Education and Gymnastics	CMPE11	4
	Core II	Professional English	CPPS11	4
	Major Practical-I	Gymnastics	CMPEP1	2
	Allied I	Basic Anatomy and Physiology	CAPE11	3
	Allied Practical - I	Kinanthropometry	CAPEP1	2
IV		Environmental Studies	CEVS11	2



Total Marks: 100 Internal Exam: 25 marks + External Exam: 75 marks

A. Scheme for internal Assessment:

Maximum marks for written test: **20 marks**

3 internal tests, each of **I hour** duration shall be conducted every semester.

To the average of the **best two** written examinations must be added the marks scored in. The **assignment** for 5 marks.

The break up for internal assessment shall be:

Written test- 20 marks; Assignment -5 marks Total - 25 marks

B. Scheme of External Examination

3 hrs. examination at the end of the semester

A – Part : 1 mark question two - from each unit

B – Part : 5 marks question one - from each unit

C – Part : 8 marks question one - from each unit

➤ **Conversion of Marks into Grade Points and Letter Grades**

S.No	Marks	Letter Grade	Grade point (GP)	Performance
1	90-100	O	10	Outstanding
2	80-89	A+	9	Excellent
3	70-79	A	8	Very Good
4	60-69	B+	7	Good
5	50-59	B	6	Above Average
6	40-49	C	5	Pass
7	0-39	RA	-	Reappear
8	0	AA	-	Absent

➤ **Cumulative Grade Point Average (CGPA)**

$$CGPA = \frac{\Sigma (GP \times C)}{\Sigma C}$$

- **GP** = Grade point, **C** = Credit
- CGPA is calculated only for Part-III courses
- CGPA for a semester is awarded on cumulative basis

➤ **Classification**

- First Class with Distinction : CGPA \geq 7.5*
- First Class : CGPA \geq 6.0
- Second Class : CGPA \geq 5.0 and $<$ 6.0
- Third Class : CGPA $<$ 5.0



முதலாம் பருவம்

பாடத்திட்டப்பதிப்பு -2021-2022

பகுதி – ஒன்று – பொதுத்தமிழ் - முதல் தாள்

Unit:1

செய்யுள்

தமிழ்த்தாய் வாழ்த்து முதல் நாட்டுப்புறப்பாடல்கள் வரை

பல்கலைக்கழக வெளியிடு,

அனுசித்ரா பப்ளிகேஷன்ஸ், சென்னை-33.

தொலைபேசிஎண் : 044-24743719,

Email : anuchitrapublications@gmail.com

Unit:2

இலக்கணம் : எழுத்து இலக்கணம்

1. எழுத்தின் விளக்கம்
2. எழுத்தின் வகைகள் - முதல் எழுத்துக்கள், சார்பு எழுத்துக்கள்
3. வினா எழுத்துக்கள், சுட்டெழுத்துக்கள்
4. வல்லினம் மிகும் இடங்கள், வல்லினம் மிகா இடங்கள்
5. ஒலிப்பு மாறுபாடுகளும் பொருள் வேறுபாடுகளும்

Unit:3

உரைநடை

இலக்கியச்சாரல் - தொகுப்பாசிரியர் முனைவர் ச.அருள்மணி

பிரிசாட் பப்ளிகேஷன்ஸ், சென்னை – 3

Unit:4

சிறுகதை

நவரத்தினக்கதைகள் - தொகுப்பாசிரியர் முனைவர் சு.நயினார்

அறிவுப்பதிப்பகம்(பி)லிட்., சென்னை –14, தொலைபேசி எண் : 044-28482441

Unit:5

இலக்கிய வரலாறு

1. புதுக்கவிதையின் தோற்றமும் வளர்ச்சியும்
2. சிறுகதையின் தோற்றமும் வளர்ச்சியும்
3. நாவலின் தோற்றமும் வளர்ச்சியும்
4. நாடகத்தின் தோற்றமும் வளர்ச்சியும்
5. நாட்டுப்புறப்பாடல்களின் தோற்றமும் வளர்ச்சியும்



PART-1 MALAYALAM

For B.Com., BCA, B.Sc. Computer Science, B.Sc. Electronics, BBA and other Job Oriented Courses, Part-1 Language will be in the first two semesters only. In that case they are supposed to study Paper-III & Paper-IV only. Other B.A. & B.Sc. Degree Course Students should study all four papers. Each paper shall divide into five units having one or two poems / prose works / parts / chapters etc for detailed study. In addition to these lessons, the teachers should brief about the Origin and History of the Literary Movements, Disciplines, Theories of Classical and Modern Theatre, Print & Visual Media.

The present Board of Studies in Malayalam is strictly adhered to the directions put forwarded by UGC & TANSICHE Govt. of Tamilnadu. Presently the language learning is closely associated with Print and Visual Media. The learner must be aware about the practicality of the language in the present scenario. That is why in the last semester media literature and art of advertising is included. The new curriculum is designed on par with the Part-1 Malayalam Syllabus of other major Universities in Kerala. The Course Structure is 75% equal in compared with other Universities

OBJECTIVE OF THE STUDY

The study of early days of Malayalam poetry, origin from Pattu movement to contemporary poetry should be introduced. The aim is to develop general knowledge about Malayalam poetry. To Develop ability to appreciate poetry and critical analysis. By understanding the history of poetry and its growth over time, one can understand the various levels associated with poetical studies and criticism.



UNIT - 1

കവിത - പ്രാചീന-മധ്യകാല കവിതകൾ
പാട്ടുപ്രസ്ഥാനം - മണിപ്രവാളഭാഷ - കവിതയിലുണ്ടായ പ്രവണതകൾ -
ഗാഥാപ്രസ്ഥാനം - കിളിപ്പാട്ട് - സംസ്കൃത സ്വാധീനം - ഭാഷയുടെ വളർച്ച

FOR DETAILED STUDY

1. ചെറുശ്ശേരി - കാളിയമർദ്ദനം (കൃഷ്ണഗാഥ)
കായ്ക്കളെക്കൊള്ളുവാൻ പാഴ്മരമേരീട്ടു...
... ശാപംകൊണ്ടിങ്ങവൻ വാരായിനും.
2. എഴുത്തച്ഛൻ - പാർത്ഥസാരഥിവർണ്ണനം (അധ്യാത്മരാമായണം കിളിപ്പാട്ട്)
നിറന്ന പീലികൾ നിരക്കവേ കുത്തി ...
... കുറഞ്ഞൊരു നേരം.
3. പൂന്താനം - ജ്ഞാനപ്പാന
സ്ഥാനമാനങ്ങൾ ചൊല്ലിക്കലഹിച്ചു...
... ഭ്രമിക്കുന്നിതൊക്കെയും.

UNIT - 2

കവിത - ആധുനിക കവിത്രയം
കവിതയിലെ ആധുനികത - രചനാപശ്ചാത്തലം - പ്രമേയം - ആഖ്യാനരീതി
എന്നിവയിൽ വന്ന മാറ്റങ്ങൾ - പ്രസക്തി

FOR DETAILED STUDY

4. കുമാരനാശാൻ - ചണ്ഡാലഭിക്ഷുകി - ഭാഗം രണ്ട്
തുമ തേടും തൻ പാള കിണറ്റിലി-...
...തെല്ലിട സുന്ദരി
5. ഉള്ളൂർ - കർണ്ണഭൂഷണം
താപസമന്ത്രത്തിൻ തത്പരീക്ഷയാം...
... പ്രാവിശ്യം മാഴ്കിടട്ടെ.
6. വള്ളത്തോൾ നാരായണമേനോൻ - എന്റെ ഭാഷ
മിണ്ടിത്തുടങ്ങാൻ ശ്രമിക്കുന്ന പിഞ്ചിളം ...

... മീനിച്ചു നിൽക്കുന്ന തുമുത്തുകൾ.

UNIT- 3

കവിത - ആധുനികപൂർവ്വ-ആധുനികഘട്ടം
ആധുനിക കവിതകളുടെ പ്രോദ്ഘാടനം - പ്രത്യേകതകൾ - കൈകാര്യം ചെയ്ത
വിഷയങ്ങൾ - മാനവികത



FOR DETAILED STUDY

- 7. വൈലോപ്പിള്ളി ശ്രീധരമേനോൻ - ജലസേചനം
- 8. എൻ. വി. കൃഷ്ണവാരീയർ - എലികൾ

UNIT - 4

ആധുനികഘട്ടം

കവിതയിൽ കൈകാര്യം ചെയ്യുന്ന പ്രമേയം - രൂപഘടന - മാറ്റങ്ങൾ - വിവിധ രീതികൾ

FOR DETAILED STUDY

- 9. അയ്യപ്പപ്പണിക്കർ - കാടവിടെ മക്കളേ
- 10. ബാലചന്ദ്രൻ ചുള്ളിക്കാട് - സന്ദർശനം

UNIT - 5

ആധുനിക-ആധുനികാനന്തരഘട്ടം

പ്രസക്തി - സാംസ്കാരിക - സാമൂഹിക ഇടപെടൽ

FOR DETAILED STUDY

- 11. വിജയലക്ഷ്മി - കൗസല്യ
- 12. എ. അയ്യപ്പൻ - അത്താഴം

REFERENCE BOOKS

മലയാള കവിതാസാഹിത്യചരിത്രം - ഡോ. എം. ലീലാവതി
 വർണ്ണരാജി - ഡോ. എം. ലീലാവതി
 കൈരളിയുടെ കഥ - പ്രൊഫ. എൻ. കൃഷ്ണപിള്ള
 തെരഞ്ഞെടുത്ത പ്രബന്ധങ്ങൾ - ഡോ. എം. അച്യുതൻ
 നവോത്ഥാനനരകവിത - എസ്. രാജശേഖരൻ
 കടലിൽ തങ്ങിയ കാന്തദ്രുമി - ഡോ. ബി. വി. ശശികുമാർ



ഭാവഗീതത്തിന്റെ അടയാളങ്ങൾ മലയാളകവിതയിൽ - ഡോ. ആർ. എസ്. രാജീവ്
ഉത്തരകാവ്യകാന്തി - പ്രകാശനവിഭാഗം, കേരള സർവ്വകലാശാല
കവിതാപഥം - പ്രകാശനവിഭാഗം, കേരള സർവ്വകലാശാല
പദ്യസാഹിതി - പ്രകാശനവിഭാഗം, കേരള സർവ്വകലാശാല
കാവ്യമാലിക - പ്രകാശനവിഭാഗം, കേരള സർവ്വകലാശാല



PART II ENGLISH

Unit I

1. Listening and Speaking
 - a. Introducing self and others
 - b. Listening for specific information
 - c. Pronunciation (without phonetic symbols)
 - i. Essentials of pronunciation
 - ii. American and British
 - iii. pronunciation
2. Reading and Writing
 - a. Reading short articles – newspaper reports / fact based articles
 - I. Skimming and scanning
 - II. Diction and tone
 - III. Identifying topic sentences
 - b. Reading aloud: Reading an article/report
 - c. Journal (Diary) Writing
3. Study Skills - 1
 - a. Using dictionaries, encyclopaedias, Thesaurus
4. Grammar in Context:
 - Naming and Describing
 - Nouns & Pronouns
 - Adjectives

Unit II

1. Listening and Speaking
 - a. Listening with a Purpose
 - b. Effective Listening
 - c. Tonal Variation
 - d. Listening for Information
 - e. Asking for Information
 - f. Giving Information
2. Reading and Writing
 1. a. Strategies of Reading:
 - Skimming and Scanning
 - b. Types of Reading :
 - Extensive and Intensive Reading
 - c. Reading a prose passage
 - d. Reading a poem
 - e. Reading a short story
2. Paragraphs: Structure and Types
 - a. What is a Paragraph?
 - b. Paragraph structure



- c. Topic Sentence
 - d. Unity
 - e. Coherence
 - f. Connections between Ideas: Using Transitional words and expressions
 - g. Types of Paragraphs
3. Study Skills II:
Using the Internet as a Resource
- a. Online search
 - b. Know the keyword
 - c. Refine your search
 - d. Guidelines for using the Resources
 - e. e-learning resources of Government of India
 - f. Terms to know
4. Grammar in Context
Involving Action-I
- a. Verbs
 - b. Concord

Unit III

- 1. Listening and Speaking
 - a. Giving and following instructions
 - b. Asking for and giving directions
 - c. Continuing discussions with connecting ideas
- 2. Reading and writing
 - a. Reading feature articles (from newspapers and magazines)
 - b. Reading to identify point of view and perspective (opinion pieces, editorials etc.)
 - c. Descriptive writing – writing a short descriptive essay of two to three paragraphs.
- 3. Grammar in Context:
Involving Action – II
 - a. Verbals - Gerund, Participle, Infinitive
 - b. Modals**

Unit IV

- 1. Listening and Speaking
 - a. Giving and responding to opinions
- 2. Reading and writing
 - a. Note taking
 - b. Narrative writing – writing narrative essays of two to three paragraphs
- 3. Grammar in Context:
Tense



- a. Present
- b. Past
- c. Future

Unit V

1. Listening and Speaking
 - a. Participating in a Group Discussion

2. Reading and writing
 - a. Reading diagrammatic information – interpretations maps, graphs and pie charts
 - b. Writing short essays using the language of comparison and contrast
3. Grammar in Context:
Voice (showing the relationship between Tense and Voice)



Foundation of Physical Education and Gymnastics

Learning outcomes:

- The pass out would be able to compare the relationship between general education and physical education.
- He would know recent developments and academic foundation of Physical education.
- He would be able to identify and relate with the History of Physical education.
- He would able to identify the History of Gymnastics.
- He would be oriented in the art of coaching the sports team.

Unit-I

Introduction to Physical Education

Definition and meaning of Physical Education - Aim and Objectives of Physical Education and Sports – Careers in Physical Education and Sports. Issues, challenges and the Future of Physical Education

Unit-II –

Foundations of Physical Education

Scientific basis of Physical Education and Sports: Contribution of Allied Sciences - Anatomy - Physiology - Kinesiology - Psychology - Sociology - Biomechanics.

Unit III –

Historical Development of Physical Education

Physical Education in India - Recent Developments in Indian Sports, SAI, NSNIS, LNIPE, SDAT, National Awards and Honors in Sports, Sports Scholarships. Sports competitions – (Asian games, Commonwealth games, SAF, National Games, AIU Sports, SGFI, RDS and BDS).Olympic Games - (Ancient and Modern), Olympic flag, Olympic Torch. Indian Olympic Association -.

Unit IV –

History of Gymnastics

History of Gymnastics: India, Asia, and World - Organization of Gymnastics: Federations, India, World - Warming-up, Specific Exercises for Gymnasts, Training



Qualities, Load, Safety Hints, Warm-down

Unit V –

Gymnastics Activities

Floor Exercises for Men and Women - Exercises and Techniques on Pommel Horse, Vaulting, Roman Rings, Parallel Bar, Horizontal bar, Balance Beam, Asymmetric Bar. Competitions, Rules, Officiating, Equipments - and their specification, Maintenance of Equipments.

Teaching Learning Strategies: The class will be taught by using lectures and demonstration, seminars, classroom discussion, videos, charts and presentations method.

Activities: Seminars/Term Papers/Assignments/Presentations/Study etc.

Assessment Rubric: Classroom Test, Project Work ,Assignments, Presentations

References:-

1. Elango, M., Kandasamy, M.,& Sivagnanam, P., Basic Gymnastics. Krishna Publications, 2007
2. Kamlesh, M.L., 2011. Fundamental Elements of Physical Education. KSK Publishers & Distributors, New Delhi.
3. Narayanan, C.,& Harriharasarma, S., 2005. An Analytical History of Physical Education. South India Press, Karaikudi.
4. Sharma, O.P., 2005, History of Physical Education First Edition, Khel Sahitya Kendra, New Delhi.
5. Shekar, K.C., 2004. Foundation of Physical Education & Sports,First Edition. Khel Sahitya Kendra Publications, New Delhi.
6. Yadvinder, S., 2005, Physical Education and Sports Science, First Edition. Sports Publications, New Delhi.



PROFESSIONAL ENGLISH FOR PHYSICAL SCIENCES

OBJECTIVES:

- To develop the language skills of students by offering adequate practice in professional contexts.
- To enhance the lexical, grammatical and socio-linguistic and communicative competence of first year physical sciences students
- To focus on developing students' knowledge of domain specific registers and the required language skills.
- To develop strategic competence that will help in efficient communication
- To sharpen students' critical thinking skills and make students culturally aware of the target situation.

LEARNING OUTCOMES:

- Recognise their own ability to improve their own competence in using the language
- Use language for speaking with confidence in an intelligible and acceptable manner
- Understand the importance of reading for life
- Read independently unfamiliar texts with comprehension
- Understand the importance of writing in academic life
- Write simple sentences without committing error of spelling or grammar

(Outcomes based on guidelines in UGC LOCF – Generic Elective)

NB: All four skills are taught based on texts/passages.

UNIT 1: COMMUNICATION

Listening: Listening to audio text and answering questions

- Listening to Instructions

Speaking: Pair work and small group work.

Reading: Comprehension passages –Differentiate between facts and opinion

Writing: Developing a story with pictures.

Vocabulary: Register specific - Incorporated into the LSRW tasks

UNIT 2: DESCRIPTION

Listening: Listening to process description.-Drawing a flow chart.

Speaking: Role play (formal context)

Reading: Skimming/Scanning-

Reading passages on products, equipment and gadgets.

Writing: Process Description –Compare and Contrast

Paragraph-Sentence Definition and Extended definition-

Free Writing.

Vocabulary: Register specific -Incorporated into the LSRW tasks.



UNIT 3: NEGOTIATION STRATEGIES

Listening: Listening to interviews of specialists / Inventors in fields
(Subject specific)

Speaking: Brainstorming. (Mind mapping).
Small group discussions (Subject- Specific)

Reading: Longer Reading text.

Writing: Essay Writing (250 words)

Vocabulary: Register specific - Incorporated into the LSRW tasks

UNIT 4: PRESENTATION SKILLS

Listening: Listening to lectures.

Speaking: Short talks.

Reading: Reading Comprehension passages

Writing: Writing Recommendations
Interpreting Visuals inputs

Vocabulary: Register specific - Incorporated into the LSRW tasks

UNIT 5: CRITICAL THINKING SKILLS

Listening: Listening comprehension- Listening for information.

Speaking: Making presentations (with PPT- practice).

Reading: Comprehension passages –Note making.
Comprehension: Motivational article on Professional Competence,
Professional Ethics and Life Skills)

Writing: Problem and Solution essay– Creative writing –Summary writing

Vocabulary: Register specific - Incorporated into the LSRW tasks



Basic Anatomy and Physiology

Learning outcomes:

- Understand the basic concept of Anatomy and Physiology
- Know about structure and function of muscles and bones
- Learn the structure and functions of heart and lungs
- Know about the structure of brain and glands
- Acquire knowledge about digestive and excretory systems

Unit-I –

Introduction

Definition, Meaning and Scope of Human anatomy and physiology – Need for and importance of Human Anatomy - Cell - Microscopic structure of cell - Tissue - Organ - Systems - Various systems in Human Body.

Unit-II

Muscular and Skeletal Systems

Muscular System: Classification of muscles - Structure and functions of Skeletal muscle – Muscle fiber - Skeletal System: Bones - Structure and functions of bones - Classification of Bones - Joints: Definition - Classification of joints.

Unit-III –

Cardio Respiratory Systems

Cardiovascular system: Structure and functions of heart - Cardiac cycle - Cardiac output - Functions of blood – Respiratory Systems: Structure and functions of Lungs – Internal and external respiration – vital capacity – VO₂ max.

Unit-IV –

Nervous and Endocrine Systems

Nervous system: Structure and functions of Brain, Spinal cord, Neuron - Autonomic nervous system - central nervous system – Endocrine System: Structure and Functions of Glands (Pituitary, thyroid, adrenal glands)

Unit-V-

Digestive and Excretory Systems

Digestive System: Types of energy resources - Gastro-intestinal system - structures - functions and its parts - Excretory system: Structure of kidney – skin and its functions.



Teaching Learning Strategies: The class will be taught by using lectures and demonstration, seminars, classroom discussion, videos, charts and presentations method.

Activities:

Seminars/Term Papers/Assignments/Presentations/Study etc.

Assessment Rubric: Classroom Test, Project Work, Assignments, Presentations

References:-

1. Albart. B., (2006). Human Physiology, First Edition. Sports Publications, Chennai.
2. Elaine, N., 2010. Essentials of Human Anatomy and Physiology. Pearson Education, River, New Jersey.
3. Mishra, S.R., 2012. Physiology of Sports and Exercise. Khel Sahitya Kendra, New Delhi
4. Mishra. S.C., 2005. Physiology in Sports, First Edition. Sports Publication, New Delhi.
5. Muruges. N., (2006). Anatomy, Physiology and Health Education, First Edition. Sathya Publishers, Chennai.
6. Sivarama krishnan. S., (2006). Anatomy and Physiology for Physical Education. Friends Publication ,Chennai.



Major Practical – I

Gymnastics

Unit I –

Floor Exercises

1. Forward Roll
2. Backward Roll,
3. Handstand Forward Roll
4. Jump Forward to Roll Forward,
5. Head Spring,
6. Hand Spring
7. Cart Wheel,
8. Round Off

Any one of the Apparatus in the following

Unit II –

Pommel Horse

1. Supports, (Front , Rear ,Straddle, Split, Feint) ,
2. Single leg Circle Clockwise (Right leg and Left leg)
3. Single leg Circle Anti Clockwise (Right leg and Left leg)
4. Double leg Circle,
5. Scissors

Unit III –

Parallel Bar

1. Perfect Swing ,
2. Straddle Seat,
3. L-Support,
4. Forward Roll
5. Backward Roll,
6. Shoulder Stand,
7. Dismount

Unit IV –

Horizontal Bar

1. Perfect Swing,
2. Free Hip Circle,
3. Mill Circle Forward
4. Mill circle Backward,



5. Dismount

Unit V –

Roman Rings

1. Perfect Swing,
2. Invested Hang,
3. Rear Hang,
4. Upstart
5. L-Support,
6. Shoulder Stand,
7. Dismount

References:-

1. Cooper, P., & Trnka, M. (1982). Teaching gymnastic skills to men and women. Surjeet.
2. Elango, M., Kandasamy, M., & Sivagnanam, P., Basic Gymnastics. Krishna Publications, 2007
3. Modak., & Pintum., (1996). Gymnastics: A Scientific Approach. Pilani, Runthala Publisher's and Printers.
4. Peter, A., (1982). Skills and Tactics of Gymnastics. Hong Kong: Marshall Cavendish, Ltd.



Allied Practical – I

Kinanthropometry

Unit I

1. Stadiometer
2. Weighing scales
3. Anthropometric tape
4. Skinfold caliper

Unit II

1. Anthropometer
2. Large sliding caliper
3. Bone calipers

Unit III

1. Segmometer
2. Wide-spread caliper
3. Small sliding caliper

Unit IV

1. Footplate
2. Anthropometric rod
3. Anthropometric box

Unit V

1. Length measurements – Height, Arm length, Leg length, Hand length, Palm length;
2. Breadth measurements –Forearm girth, Chest girth, waist girth, Hip girth, Thigh girth and Calf girth.
3. Other measurement: BMI & waist circumference

References:-

1. Curton, A.C., (1986). Function of the Human Body, London W.B. Saunders Company.
2. Srivastava., (1976). Textbook of practical Physiology. Calcutta, Scientific Book Agency.
3. Morehouse & Miller. Physiology of Exercise. St. Louis the C.V. Mosby Company, Latest (ed.).
4. Kapovich & Sinsler., (1965). Physiology of Muscular Activity. London W.B. Saunders company.



5. Anderson T., & Clurg., (1961). Human Kinetics and Analyzing Body Measurements. London, William Heinmann Medical Books Ltd.
6. Davis, D.V., (1967). Gray's Anatomy. London Longman Green and Company Ltd.
7. Dual& Ellen Neil Kinesiology. The Anatomy of motion.
8. Evelyn, P. B., (1967). Anatomy and Physiology for Nurses. London, Faber, and Faber Ltd.
9. Pearce J.W., (1959). Anatomy for Students and Teachers of Physical Education, London, Edward Arnold and Company.
10. Marfell-Jones, M., Stewart, A., & Olds, T. (2006). Kinanthropometry IX: Proceedings of the 9th International Conference of the International Society for the Advancement of Kinanthropometry. Routledge.
11. The International Society for the Advancement of Kinanthropometry (2010) Retrieved January 20, 2011 from <http://www.isakonline.com/>



ENVIRONMENTAL STUDIES

PART IV-COMPULSORY PAPER

UNIT I:

THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, scope and importance Natural resources and associated problems:

- a) Forest resources: Use and over-exploitation, deforestation, timber extraction, dams and their effects on forests and tribal people.
- b) Water resources: Use and over-utilization of surface and ground water, floods, drought, dams-benefits and problems, water conservation and watershed management.
- c) Mineral resources: Use and exploitation, environmental effects.
- d) Food resources: World food problems, changes, effects of modern agriculture, fertilizer-pesticide problems.
- e) Energy resources: Growing energy needs, renewables and non-renewable energy sources, alternate energy sources.
- f) Land resources: Land as a resource, land degradation, man-induced landslides, soil erosion and desertification.
- g) Role of an individual in conservation of natural resources.
- h) Equitable use of resources for sustainable lifestyles.

UNIT II:

ECOSYSTEMS

- a) Forest Ecosystem
- b) Grassland Ecosystem
- c) Desert ecosystem
- d) Aquatic Ecosystem (Ponds rivers, oceans, estuaries)
Food Chains, Food Webs and Ecological Pyramids Energy flow in the ecosystem
Ecological succession

UNIT III :

BIODIVERSITY AND ITS CONSERVATION

Introduction Definition: Genetic, species and ecosystem diversity. Bio geographical classification of India Values of Biodiversity Biodiversity at global, national and local levels India as a mega-diversity nation Hot-Spots of biodiversity Threats to biodiversity Endangered and endemic species of India Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.



UNIT IV:

ENVIRONMENTAL POLLUTION

Definition- Causes, effects and control measures of:-

- a) Air Pollution
 - b) Water Pollution
 - c) Soil Pollution
 - d) Marine Pollution
 - e) Noise Pollution.
 - f) Thermal Pollution
- Solid Waste Management
Disaster Management: Floods, earthquake, cyclone and landslides.

UNI TV:

SOCIAL ISSUES AND THE ENVIRONMENT

Climatic change, global warming, acid rain, ozone depletion.
Wasteland reclamation
Consumerism and Waste products, use and through plastics
Environment Protection Act
Air (Prevention and Control of Pollution Act
Water (Prevention and Control of Pollution) Act
Wildlife Protection Act
Forest Conservation Act
Population Explosion — Family Welfare Programme
Human Rights

REFERENCES:

1. Vijayalakshmi, G. S.], A. G. Murugesan and N. Sukumaran.2006. Basics of Environmental Science, Manonmaniam Sundaranar University Publications, Tirunelveli, pp.160
2. Agarwal. K. C.2001.Environmental Biology, Nidi Publications Limited, Bikaner.
3. A.K. De.1999. Environmental Chemistry, Wiley Eastern Limited, India.
4. Jadhav, H. and Bhosale,V.M.1995. Environmental Protection and Laws, Himalaya Publishing House, Delhi. pp284.
5. Odum, E.P.1971. Fundamentals of Ecology, W.B.Saunders Co.,USA.pp.574.

