Academic Year: 2023-2024

Bachelor of Science in Agriculture

Syllabus & Scheme

Semester – I & II

School of Agricultural Science

GYANVEER UNIVERSITY, SAGAR (M.P.)

Scheme of Examination B.Sc (Agriculture) I Semester

School of Agricultural Science (Academic Session 2023-24)

Subject wise distribution of marks and corresponding credits

S. No.	Subject Type	Course	Subject Code	Paper Name	Maximum Marks Allotted									Total Marks	Contact Periods Per week			Credit Allotments	Total Credits
					Theory Slot				Practical Slot										
					End Term Exam	Internal Assesment Class test (Descriptive & Objective)/Assignment/Seminar			Internal Assesment			External Assesment							
					Final Exam	Internal Assesment I	Internal Assesment II	Internal Assesment III	Class test/ Interaction	Attendance	Practical/ Presentation/Lab Record	Viva Voce	Lab Work		L	T	P		
1	Core Course	B.Sc (Agriculture)	GUBSCAG 101T	Fundamentals of Horticulture (Theory)	70	15	15	15	-	-	-	-	-	100	1	0	0	2(1+1)	1
2	Core Course		GUBSCAG 101P	Fundamentals of Horticulture (Practical)	-	-	-	-	10	10	10	10	10	50	0	0	1		1
3	Core Course		GUBSCAG 102T	Fundamentals of Plant Biochemistry and Biotechnology (Thoery)	70	15	15	15	-	-	-	-	-	100	2	0	0	3(2+1)	2
4	Core Course		GUBSCAG 102P	Fundamentals of Plant Biochemistry and Biotechnology (Practical)	-	-	-	-	10	10	10	10	10	50	0	0	1		1
5	Core Course		GUBSCAG 103T	Fundamentals of Soil Science(Theory)	70	15	15	15	-	-	-	-	-	100	2	0	0	3(2+1)	2
6	Core Course		GUBSCAG 103P	Fundamentals of Soil Science(Practical)	-	-	-	-	10	10	10	10	10	50	0	0	1		1
7	Core Course		GUBSCAG 104T	Introduction to Forestry(Theory)	70	15	15	15	-	-	-	-	-	100	1	0	0	2(1+1)	1
8	Core Course		GUBSCAG 104P	Introduction to Forestry(Practical)	-	-	-	-	10	10	10	10	10	50	0	0	1		1
9	Core Course		GUBSCAG 105T	Comprehension & Communication Skills in English (Theory)	70	15	15	15	-	-	-	-	-	100	1	0	0	2(1+1)	1
10	Core Course		GUBSCAG 105P	Comprehension & Communication Skills in English (Practical)	-	-	-	-	10	10	10	10	10	50	0	0	1		1
11	Core Course		GUBSCAG 106T	Fundamentals of Agronomy(Theory)	70	15	15	15	-	-	-	-	-	100	3	0	0	4(3+1)	3
12	Core Course		GUBSCAG 106P	Fundamentals of Agronomy(Practical)	-	-	-	-	10	10	10	10	10	50	0	0	1		1
13	Core Course		GUBSCAG 107T	Rural Sociology & Educational Psychology	70	15	15	15	-	-	-	-	-	100	2	0	0	2(2+0)	2
14	Core Course		GUBSCAG 108T	Introductory Biology*(Theory)	70	15	15	15	-	-	-	-	-	100	1	0	0	2(1+1)	1
15	Core Course		GUBSCAG 108P	Introductory Biology*(Practical)	-	-	-	-	10	10	10	10	10	50	0	0	1		1
16	Core Course		GUBSCAG 108T	Elementary Mathematics*	70	15	15	15	-	-	-	-	-	100	2	0	0	2(2+0)	2
17	Core Course		GUBSCAG 109T	Agricultural Heritage*	70	15	15	15	-	-	-	-	-	100	1	0	0	1(1+0)	1
18	Core Course		GUBSCAG 110T	Human Values & Ethics (non gradial)	70	15	15	15	-	-	-	-	-	100	1	0	0	1(1+0)	1
19	Core Course		GUBSCAG 111P	NSS/NCC/Physical Education & Yoga Practices**	-	-	-	-	-	-	-	-	-	50	0	0	2	2(0+2)	2

Total of Creditd is = 24

Note*: Allotment of Marks for Internal Assesment for theory portion is Best of Two / either of two and addition of them.

For Subject Sode: GUBSCAG 108-Students who studied Mathematics in Higher Secondery will opt Biology and who studied Biology in Higher Secndery will opt Mathematics in B.Sc. Agriculture (Hons)

*R: Remedial course;

** NC - Non Gradial Course

Sagar (M.P.)

I SMESTER

Course Title: GUBSCAG 101T : Fundamentals of Horticulture (Theory) 2(1+1)

Theory

Horticulture-Its definition and branches, importance and scope; horticultural and botanical classification; climate and soil for horticultural crops; Plant propagation-methods and propagating structures; principles of orchard establishment; Principles and methods of training and pruning, juvenility and flower bud differentiation;unfruitfulness; pollination, pollinizers and pollinators; Fertilization and parthenocarpy; kitchen gardening; garden types and parts; lawn making; medicinal and aromatic plants; Species and condiments; use of plant bio-regulators in horticulture. Irrigation & fertilizersapplication-method and quantity.

Course Title : GUBSCAG 101P : Fundamentals of Horticulture (Practical)

List of Practical's

1. Identification of garden tools.
2. Identification of horticultural crops.
3. Preparation of seed bed/nursery bed.
4. Practice of sexual and asexual methods of propagation Including micro propagation
5. Layout and planting of orchard
6. Preparation of potting mixture
7. Fertilizer application in different crops.
8. Visits to commercial nurseries/orchard.

References

1. Jitendra singh 2011 Basic Horticulture Kalyani Publications New Delhi
2. Prasad and kumar 2014 Princples of Horticulture 2nd Edn.Agrobios [india]
3. Kumar, N , 1990 Introduction to Horticulture Rajya lakshmi Publication nagarcoil Tamilnadu

Course Title: GUBSCAG102T : Fundamentals of Plant Biochemistry and Biotechnology (Theory)

3(2+1)

Theory

Importance of Biochemistry. Properties of Water, pH and Buffer. Carbohydrate: Importance and classification. Structures of Monosaccharides, Reducing and oxidizing properties of Monosaccharides, Mutarotation; Structure of Disaccharides and Polysaccharides.

Lipid: Importance and classification; Structures and properties of fatty acids; storage lipids and membrane lipids. Proteins: Importance of proteins and classification; Structures. titration and zwitterions nature of amino acids; Structural organization of proteins. Enzymes: General properties; Classification; Mechanism of action; Michaelis & Menten and Line Weaver Burk equation & plots; Introduction to allosteric enzymes.

Nucleic acids: Importance and classification; Structure of Nucleotides, A, B & Z DNA; RNA: Types and Secondary & Tertiary structure. Metabolism of carbohydrates: Glycolysis, TCA cycle, Glyoxylate cycle, Electron transport chain. Metabolism of lipids: Beta oxidation, Biosynthesis of fatty acids

Concepts and applications of plant biotechnology: Scope, organ culture, embryo culture, cell suspension culture, callus culture, anther culture, pollen culture and ovule culture and their applications; Micro-propagation methods; organogenesis and embryogenesis, Synthetic seeds and their significance; Embryo rescue and its significance; somatic hybridization and cybrids; Somaclonal variation and its use in crop improvement; cryo-preservation;

Introduction to recombinant DNA methods: physical (Gene gun method), chemical (PEG mediated) and Agrobacterium mediated gene transfer methods; Transgenics and its importance in crop improvement; PCR techniques and its applications; RFLP, RAPD, SSR: Marker Assisted Breeding in crop improvement; Biotechnology regulation

Course Title: GUBSCAG102P: Fundamentals of Plant Biochemistry and Biotechnology (Practical)

List of Practical's

1. Preparation of solution, pH & buffers,
2. Qualitative tests of carbohydrates and amino acids.
3. Quantitative estimation of glucose/ proteins.
4. Titration methods for estimation of amino acids/lipids,
5. Effect of pH, temperature and substrate concentration on enzyme action.
6. Paper chromatography/
7. TLC demonstration for separation of amino acids/
8. Monosaccharides. Sterilization techniques.
9. Composition of various tissue culture media and preparation of stock solutions for MSnutrient medium.
10. Callus induction from various explants.
11. Micro-propagation, hardening and acclimatization.
12. Demonstration on isolation of DNA.
13. Demonstration of gel electrophoresis techniques and DNA finger printing.

References

1. A Text book of plant Pkysiology Bio-chemistry and Bio-technology By Dr. S.K. Varma & Dr.Mohit Varma, S Chand Publication
2. Plant Bio-Chemistry By U.K. Satynarayna Kalyani Publication
3. जीव रसायन डॉ लाल सिंह निरंकारी कुशल प्रकाशन

Course Title: GUBSCAG 103T: Fundamentals of Soil Science (Theory)

3(2+1)

Theory

Soil as a natural body. Pedological and edaphological concepts of soil: Soil genesis: soil forming rocks and minerals: weathering, processes and factors of soil formation: Soil Profile, components of soil:

Soil physical properties: soil-texture, structure, density and porosity, soil colour, consistence and plasticity: Elementary knowledge of soil taxonomy classification and soils of India: Soil water retention, movement and availability:

Soil air, composition, gaseous exchange, problem and plant growth: source, amount and flow of heat in soil: soil temperature and plant growth: Soil reaction-pH, soil acidity and alkalinity, buffering, effect of pH on nutrient availability:

Soil colloids - inorganic and organic: silicate clays: constitution and properties: sources of charge ion exchange, cation exchange capacity, base saturation: soil organic matter: composition, properties and its influence on soil properties: humic substances - nature and properties: soil organisms: macro and micro organisms, their beneficial and harmful effects: Soil pollution - behaviour of pesticides and inorganic contaminants, prevention and mitigation of soilpollution.

Course Title : GUBSCAG 103P: Fundamentals of Soil Science (Practical)

List of Practical's

1. Study of soil profile in field.
2. Study of soil sampling tools, collection of representative soil sample, its processing andstorage.
3. Study of soil forming rocks and minerals. Determination of soil density, moisture content and porosity.
4. Determination of soil texture by feel and Bouyoucos Methods.
5. Studies of capillary rise phenomenon of water in soil column and water movement insoil.
6. Determination of soil pH and electrical conductivity.
7. Determination of cation exchange capacity of soil.
8. Study of soil map. Determination of soil colour.
9. Demonstration of heat transfer in soil.
10. Estimation of organic matter content of soil

References

1. Indian Society of Soil Science , 2002 Fundamental of Soil Science , IARI New Delhi
2. Sehgal J.A,2005 Text book of Pedology Concepts and Applications Kalyani PublicationNew Delhi
3. Dilip Kumar Das 2015 . Introductory Soil Science Kalyani Publication Ludhiana

Course Title : GUBSCAG 104T: Introduction to Forestry (Theory) 2(1+1)

Theory

Introduction – definitions of basic terms related to forestry, objectives of silviculture, forest classification, salient features of Indian Forest Policies. Forest regeneration, Natural regeneration - natural regeneration from seed and vegetative parts, coppicing, pollarding, root suckers;

Artificial regeneration – objectives, choice between natural and artificial regeneration, essential preliminary considerations. Crown classification.

Tending operations – weeding, cleaning, thinning – mechanical, ordinary, crown and advance thinning. Forest mensuration – objectives, diameter measurement, instruments used in diameter measurement;

Non instrumental methods of height measurement - shadow and single pole method; Instrumental methods of height measurement - geometric and trigonometric principles, instruments used in height measurement; tree stem form, form factor, form quotient, measurement of volume of felled and standing trees, age determination of trees.

Agroforestry – definitions, importance, criteria of selection of trees in agroforestry, different agroforestry systems prevalent in the country, shifting cultivation, taungya, alley cropping, wind breaks and shelter belts, home gardens. Cultivation practices of two important fast growing tree species of the region.

Course Title : GUBSCAG 104P: Introduction to Forestry (Practical)

List of Practical's

1. Identification of tree-species.
2. Diameter measurements using calipers and tape, diameter measurements of forked, buttressed, fluted and leaning trees. Height measurement of standing trees by shadow method, single pole method and hypsometer.
3. Volume measurement of logs using various formulae.
4. Nursery lay out, seed sowing, vegetative propagation techniques.
5. Forest plantations and their management.
6. Visits of nearby forest based industries.

References

1. Beazley , M. 1981 . the international book of forest . London
2. Champion & Sedh . 1968 . forest types of india
3. Grebner , D.L, Bettinger, P. & Siry , J.P. 2012 Introduction forest & Natural Resources .Academic Prees . 508 P.[Google eBook]

Course Title : GUBSCAG 105T : Comprehension and Communication Skills in English (Theory)

2(1+1)

Theory

War Minus Shooting- The sporting Spirit. A Dilemma- A layman looks at science Raymond B.Fosdick. You and Your English – Spoken English and broken English G.B. Shaw. Reading Comprehension, Vocabulary- Antonym, Synonym, Homophones, Homonyms, often confusedwords.

Exercises to help the students in the enrichment of vocabulary based on TOEFL and othercompetitive examinations.

Functional grammar: Articles, Prepositions, Verb, Subject verb Agreement, Transformation, Synthesis, Direct and Indirect Narration.

Written Skills: Paragraph writing, Precise writing, Report writing and Proposal writing.

The Style: Importance of professional writing. Preparation of Curriculum Vitae and Job applications. Synopsis Writing. Interviews: kinds, Importance and process.

Course Title : GUBSCAG 105P : Comprehension and Communication Skills in English (Practical)

List of Practical's

1. Listening Comprehension: Listening to short talks lectures, speeches (scientific. commercial and general in nature).
2. Oral Communication: Phonetics, stress and intonation, Conversation practice
3. . Conversation: rate of speech, clarity of voice, speaking and listening. politeness & Reading skills: reading dialogues, rapid reading, intensive reading, improving reading skills.
4. Mock Interviews: testing initiative, team spirit, leadership, intellectual ability. Group Discussions.

References

1. English Language and Indian Culture – Tribhuwan Nath Shukla
2. English Conversation Practice – Grant Taylor
3. A Course in Phonetics and – J. Sethi and P.V. Dhamija Spoken English
4. Objective English – Hari Mohan Prasad
5. High School English Grammar – Wren and Martinin

Course Title : GUBSCAG106T:Fundamentals of Agronomy (Theory) 4(3+1)

Theory

Agronomy and its scope, seeds and sowing, tillage and tilth, crop density and geometry

Crop nutrition, manures and fertilizers, nutrient use efficiency, water resources, soil plant water relationship,

Crop water requirement, water use efficiency, irrigation- scheduling criteria and methods, quality of irrigation water, water logging.

Weeds- importance, classification, crop weed competition, concepts of weed management-principles and methods, herbicides- classification, selectivity and resistance, allelopathy. Growth and development of crops, factors affecting growth and development,

Plant ideotypes, crop rotation and its principles, adaptation and distribution of crops, crop management technologies in problematic areas, harvesting and threshing of crops.

Course Title : GUBSCAG106P:Fundamentals of Agronomy (Practical)

List of Practical's

1. Identification of crops, seeds, fertilizers, pesticides and tillage implements,
2. Identification of weeds in crops,
3. Methods of herbicide and fertilizer application,
4. Study of yield contributing characters and yield estimation,
5. Seed germination and viability test,
6. Numerical exercises on fertilizer requirement,
7. plant population, herbicides and water requirement,
8. Use of tillage implements-reversible plough, one way plough, harrow, leveler, seed drill,
9. Study of soil moisture measuring devices,
10. Measurement of field capacity, bulk density and infiltration rate,
11. Measurement of irrigation water
12. Study of agro-climatic zones of India

References

1. Reddy yellamanda T & Shankar Reddy G H .1995 Principles of Agronomy KalyaniPublishers Ludhiana
2. Rao V S. 1992 Principles of Weed Science Oxford and IBH publishing Co. Ltd. NewDehli

Course Title : GUBSCAG 107T: Rural Sociology & Educational Psychology 2(2+0)

Theory

Sociology and Rural sociology: Definition and scope, its significance in agriculture extension,

Rural society,

Social Groups, Social Stratification,

Culture concept, Social Institution, Social Change & Development.

Educational psychology: Meaning & its importance in agriculture extension.

Behavior: Cognitive, affective, psychomotor domain, Personality, Learning, Motivation, Theories of Motivation, Intelligence.

References

1. Introductory Rural Sociology – Chitambar, J.B., Wiley Eastern Private Limited, New Delhi
2. Education and communication for development – Dahama O.P. and Bhatnagar, O.P., Oxford and IBH Publishing Co. New Delhi
3. Rural Sociology in India – Desai, A.R., Popular Prakashan, Bombay
4. Educational Psychology – Jitendra Mohan, Wiley Eastern Limited, New Delhi
5. Educational Psychology – Rai, B.C., Prakashan Kendra, Lucknow

Course Title : GUBSCAG 108T: Introductory Biology (Theory) 2(1+1)

Theory

Introduction to the living world, diversity and characteristics of life

Origin of life, Evolution and Eugenics.

Binomial nomenclature and classification Cell and cell division.

Morphology of flowing plants. Seed and seed germination.

Plant systematic- viz; Brassicaceae, Fabaceae and Poaceae. Role of animals in agriculture.

Course Title : GUBSCAG 108P: Introductory Biology (Practical)

List of Practical's

1. Morphology of flowering plants – root, stem and leaf and their modifications. Inflorence, flower and fruits.
2. Cell, tissues & cell division.
3. Internal structure of root, stem and leaf.
4. Study of specimens and slides.
5. Description of plants - Brassicaceae, Fabaceae and Poaceae.

Course Title : GUBSCAG 108T: Elementary Mathematics(Theory) 2(2+0)

Theory

Straight lines : Distance formula, section formula (internal and external division), Change of axes (only origin changed), Equation of co-ordinate axes, Equation of lines parallel to axes. Slope-intercept form of equation of line, Slope-point form of equation of line, Two point form ofequation of line, Intercept form of equation of line, Normal form of equation of line, General form of equation of line, Point of intersection of two st. lines, Angles between two st. lines. Parallel lines, Perpendicular lines, Angle of bisectors between two lines,

Area of triangle and quadrilateral . Circle: Equation of circle whose centre and radius is known. General equation of a circle, Equation of circle passing through three given points. Equation of circle whose diameters is line joining two points (x_1, y_1) & (x_2,y_2), Tangent and Normal to a given circle at given point (Simple problems), Condition of tangency of a line $y = mx + c$ to the given circle $x^2 + y^2 = a^2$.

Differential Calculus : Definition of function, limit and continuity, Simple problems on limit. Simple problems on continuity, Differentiation of x^n , e^x , sin x & cos x from first principle. Derivatives of sum, difference, product and quotient of two functions, Differentiation of functions of functions (Simple problem based on it), Logarithmic differentiation (Simple problem based on it), Differentiation by substitution method and simple problems based on it. Differentiation of Inverse Trigonometric functions.

Maxima and Minima of the functions of the form y=f (x) (Simple problems based on it).

Integral Calculus : Integration of simple functions, Integration of Product of two functions. Integration by substitution method, Definite Integral (simple problems based on it), Area under simple well-known curves (simple problems based on it).

Matrices and Determinants: Definition of Matrices, Addition, Subtraction, Multiplication. Transpose and Inverse up to 3rd order, Properties of determinants up to 3rd order

Reference -

- नूतन गणित – आर.बी. त्रिपाठी
- नवबोध गणित – मुकुल राय एवं डॉ एम. एस. गुप्त कैलाश पुस्तक सदन हमिदिया मार्ग भोपाल

Course Title : GUBSCAG 109T:Agriculture Heritage (New Course) 1(1+0)

Theory

Introduction of Indian agricultural heritage, status of farmers in society; advice by sages to kingson their duties towards farmers, soil management in ancient, medieval & pre-modern India and its relevance in modern day

Sustainable agriculture, heritage of crop & water management, plant growth and development &plant protection through vrikshayurveda and traditional knowledge.

Heritage of medicinal plants and their relevance today, seed health in ancient & medieval historyand its relevance to present day agriculture,

Description of Indian civilization and agriculture by travelers from China, Europe and United States,

Our journey in agriculture, green revolution and its impact and concerns, vision for the future.

References

1. A History of Agriculture in India - M.S.Randhawa, Vol. IV (1947-1981). ICAR, New Delhi
2. Principles of Agronomy - S.R. Reddy, Kalyani Publication, New Delhi.
3. Food and Environment Security - A continuing challenge, keynote address during Second International Agronomy Congress on Balancing Food and Environmental Security, held at New Delhi, Nov. 26-20, 2002 - Punjab Singh (2002).
4. Agricultural Economy - S. Sankaran, S. Chand and Company Publication
5. The Role of women in Indian Agriculture in the globalize era
6. Krishi Siksha, Anusandhan Aur Prasar Ke Bhadate Kadam, Khete 55(8) : 9-12. – Katyal, J.C. and Bhatia, J.S. (2002)

Course Title : GUBSCAG 110T: Human Value and Ethics 1(1+0)

Theory

Values and Ethics-An Introduction. Goal and Mission of Life.

Vision of Life. Principles and Philosophy. Self Exploration. Self Awareness.

Self Satisfaction. Decision Making.

Motivation. Sensitivity. Success. Selfless Service. Case Study of Ethical Lives.

Positive Spirit. Body, Mind and Soul. Attachment and Detachment. Spirituality Quotient. Examination.

Reference –

- मानवीय मूल्य और पेशेवर नैतिकता - Sanjeev kumar Bhalla & Rupa Bhalla
  सत्या प्रकाशन नई दिल्ली
- A Text Book on - Professional Ethics & Human Values By – R.S. Naagarazan
  New age International Publisher .

Course Title : GUBSCAG 111P: NSS/NCC/Physical Education & Yoga Practices 2(0+2)

Theory

Course aims at evoking social consciousness among students through various activities viz., working together, constructive and creative social work, to be skillful in executing democratic leadership, developing skill in programme development to be able for self-employment, reducing gap between educated and uneducated, increasing awareness and desire to help sections of society.

Following activities are to be taken up under the NSS course:

- Introduction and basic components of NSS: Orientation
- NSS programmes and activities
- Understanding youth
- Community mobilisation
- Social harmony and national integration
- Volunteerism and shramdan
- Citizenship, constitution and human rights
- Family and society
- Importance and role of youth leadership
- Life competencies
- Youth development programmes
- Health, hygiene and sanitation
- Youth health, lifestyle, HIV AIDS and first aid
- Youth and yoga
- Vocational skill development
- Issues related environment
- Disaster management
- Entrepreneurship development
- Formulation of production oriented project
- Documentation and data reporting
- Resource mobilization
- Additional life skills
- Activities directed by the Central and State Government

All the activities related to the National Service Scheme course is distributed under four different courses viz., National Service Scheme I, National Service Scheme II, National Service Scheme III and National Service Scheme IV each having one credit load. The entire four coursesshould be offered continuously for two years. A student enrolled in NSS course should put in at least 60 hours of social work in different activities in a semester other than five regular one day camp in a year and one special camp for duration of 7 days at any semester break period in the two year. Different activities will include orientation lectures and List of Practical works.Activities directed by the Central and State Government have to be performed by all the volunteers of NSSas per direction.

References

1. Cadet Hand Book (Army Wing)– Major R.C. Mishra
2. Cadet Hand Book (Army Wing)– Directorate General, NCC, Ministry of Defence, R.K. Puram, New Delhi.

Course Title : GUBSCAG 111P: National Service Scheme I

Introduction and basic components of NSS:

2(0+2)

Orientation: History, objectives, principles, symbol, badge; regular programmes under NSS, organizational structure of NSS, code of conduct for NSS volunteers, points to be considered by NSS volunteers awareness about health

NSS programmes and activities

Concept of regular activities, special camping, day camps, basis of adoption of village/slums, conducting survey, analysing guiding financial patterns of scheme, youth programme/ schemes of GOI, coordination with different agencies and maintenance of diary

Understanding youth

Definition, profile, categories, issues and challenges of youth; and opportunities for youth who is agent of the social change

Community mobilisation

Mapping of community stakeholders, designing the message as per problems and their culture; identifying methods of mobilisation involving youth-adult partnership

Social harmony and national integration

Indian history and culture, role of youth in nation building, conflict resolution and peace-building

Volunteerism and shramdan

Indian tradition of volunteerism, its need, importance, motivation and constraints; shramdan as part of volunteerism

Citizenship, constitution and human rights

Basic features of constitution of India, fundamental rights and duties, human rights, consumer awareness and rights and rights to information

Family and society

Concept of family, community (PRIs and other community based organizations) and society

Course Title : GUBSCAG 111P: Physical Education and Yoga Practices
2(0+2)

Semester I: Physical Education and Yoga Practices

1. Teaching of skills of Football – demonstration, practice of the skills, correction, involvement in game situation (For girls teaching of Tennikoit)
2. Teaching of different skills of Football – demonstration, practice of the skills, correction, involvement in game situation (For girls teaching of Tennikoit)
3. Teaching of advance skills of Football – involvement of all the skills in game situation with teaching of rules of the game.
4. Teaching of skills of Basketball – demonstration, practice of the skills, correction of skills, involvement in game situation.
5. Teaching of skills of Basketball – demonstration, practice of the skills, involvement in game situation.
6. Teaching of skills of Basketball – involvement of all the skills in game situation with teaching of rule of the game.
7. Teaching of skills of Kabaddi – demonstration, practice of the skills, correction of skills, involvement in game situation.
8. Teaching of skills of Kabaddi – demonstration, practice of the skills, correction of skills, involvement in game situation.
9. Teaching of advance skills of Kabaddi – involvement of all the skills in game situation with teaching of rule of the game.
10. Teaching of skills of Ball Badminton – demonstration, practice of the skills. correction of skills, involvement in game situation ..
11. Teaching of skills of Ball Badminton – involvement of all the skills in game situation with teaching of rule of the game.
12. Teaching of some of Asanas – demonstration, practice, correction and practice
13. Teaching of some more of Asanas – demonstration, practice, correction and practice.
14. Teaching of skills of Table Tennis – demonstration, practice of skills, correction and practice and involvement in game situation.
15. Teaching of skills of Table Tennis – demonstration, practice of skills, correction and practice and involvement in game situation.
16. Teaching of skills of Table Tennis – involvement of all the skills in game situation with teaching of rule of the game .
17. Teaching – Meaning, Scope and importance of Physical Education.
18. Teaching – Definition, Type of Tournaments .
19. Teaching – Physical Fitness and Health Education .
20. Construction and laying out of the track and field (*The girls will have Tennikoit an Throw Ball).

References

1. Foundation of Physical Education – C.A. Bucher and D.A. Wuest
2. Introduction to Physical Education, Fitness and Sports – Davyal
3. Applied Anatomy and Biomechanics in sports – John Bloom field *et al.*
4. Methods of Physical Education – Kamlesh and Sangral
5. Science of sports training – Hardayal Singh
6. Application of measurement to Davidphysical education – H. Harrigon Clark and H. Clark

7. भारीरिक शिक्षा के सिद्ध – कमलश
8. भारीरिक शिक्षा एवं क्रीडा मार्गदर्शिका – डा. व्ही.एस. सेंगर