

**III B. Sc - BOTANY SYLLABUS SEMESTER- VI**  
**PAPER – VII – ELECTIVE**  
**W.E.F. 2017-18**

**Paper VII-(B): Nursery, Gardening and Floriculture.**

Total hours of teaching 60hrs @ 3hrs per week

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**Unit I: Nursery:** (12 hrs.)

1. Definition, objectives, scope and building up of infrastructure for nursery.
2. Planning and seasonal activities - Planting - direct seeding and transplants.
3. Nursery Management and Routine Garden Operations.

**Unit III: Gardening** (12 hrs.)

1. Definition, objectives and scope - different types of gardening.
2. Landscape and home gardening - parks and its components, plant materials and design .
3. Computer applications in landscaping.
4. Gardening operations: soil laying, manuring, watering.
5. Landscaping Places of Public Importance: Landscaping highways and Educational Institutions)
6. Some Famous gardens of India.

**Unit III: Propagation methods** (12 hrs.)

- 1 Sowing/raising of seeds and seedlings, transplanting of seedlings.
2. Air-layering, cutting, selection of cutting ,propagule collecting season, treatment of cutting rooting medium and planting of cuttings - Hardening of plants.
3. Propagation of ornamental plants by rhizomes, corms tubers, bulbs and bulbils.
4. Green house - mist chamber, shed root, shade house and glass house for propagation.

**Unit IV: Floriculture:** ( 12 hrs.)

1. Ornamental Plants: Flowering annuals; herbaceous, perennials; Divine vines; Shade and ornamental trees.
2. Ornamental bulbous and foliage plants; Cacti and succulents.
3. Ornamentals-palms.
4. Cultivation of plants in pots; Indoor gardening; Bonsai.

**Unit V: Commercial Floriculture****( 12 hrs.)**

1. Factors affecting flower production; Production and packaging of cut flowers; Flower arrangements; Methods to prolong vase life of flowers
2. Cultivation of Important cut flowers (Carnation, Aster, Dahlia, Gerbera, Anthuriums, Gladiolous, Marigold, Rose, Lilium)
3. Management of pests, diseases and harvesting.
4. Methods of harvesting.

**Books for Reference:**

1. Bose T.K. & Mukherjee, D., 1972, Gardening in India, Oxford & IBH Publishing Co., New Delhi.
2. Sandhu, M.K., 1989, Plant Propagation, Wile Eastern Ltd., Bangalore, Madras.
3. Kumar, N., 1997, Introduction to Horticulture, Rajalakshmi Publications, Nagercoil. institution)
4. Randhawa, G.S. and Mukhopadhyay, A. 1986. Floriculture in India. Allied Publishers.

**Suggested Activities:** Raising a nursery, managing it, studying and drawing various land scaping designs, practicing layering methods, using shade nets to protect horticultural crops, practicing indoor gardening techniques, visiting florists and recording their methods of prolonging vase life of commercial cut flowers.

**III B. Sc - BOTANY SYLLABUS SEMESTER- VI (Elective)**  
**Practical Syllabus, Paper VII-(B): Nursery, Gardening and Floriculture**  
 Total hours of teaching 30hrs @ 2hrs per week

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1. Tools, implements and containers used for propagation and nursery techniques.
2. Propagation by cutting, layering, budding and grafting
3. Seed propagation- preparation of portable trays, seed treatments, sowing and seedling production.
4. Identification and description of annuals, herbaceous perennials, climbers, creepers, foliage and flowering shrubs, trees, palms, ferns, ornamental grasses; cacti and succulents..
5. Planning and designing of gardens, functional uses of plants in the landscape
6. Preparation of land for lawn and planting.
7. Identification of commercially important flower crops and their varieties.
8. Propagation practices in flower crops, sowing of seeds and raising of seedlings of annuals.
9. Use of chemicals and other compounds for prolonging the vase life of cut flowers.
10. Grading, packing and marketing of cut flowers.
11. Visit to commercial nurseries and commercial tissue culture laboratory
12. Study project under supervision of lecturer – nursery/ornamental flowers/ plants/lawn designing/ landscape designing

**Expected domain skills to be achieved:** Ability to use a variety of garden tools and implements, proficiency in layering and grafting techniques (cleft grafting and bud grafting), land scape drawings using computers, raising of healthy nurseries of flowering plants, managing vase life of cut flowers etc.

**PRACTICAL MODEL PAPER**

**Paper-VII-(B): Nursery, Gardening and Floriculture**

<b>Q1. Project report (A)</b>	<b>- 15 marks</b>
<b>Viva-voce on study project</b>	<b>-05 marks</b>
<b>Q2. Identify and write notes on B, C, D, and E (4x5)</b>	<b>-20 marks</b>
<b>B- Tool/instrument/container used in nursery</b>	
<b>C-Seed propagation technique</b>	
<b>D- Plant used in lawn (plant specimen/photograph)</b>	
<b>E-ornamental flower (photograph/live specimen)</b>	
<b>Q4. Field report</b>	<b>- 05 marks</b>
<b>Q5. Record</b>	<b>- 05 marks</b>
	<b>50 marks</b>

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### III B.Sc.: BOTANY SYLLABUS SEMESTER- VI

#### Paper VIII, CLUSTER ELECTIVE

W.E.F. 2017-18

#### Paper VIII-A-1 : PLANT DIVERSITY AND HUMAN WELFARE

Total hours of teaching 60hrs @ 3hrs per week

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#### Unit- I: Plant diversity and its scope: (12hrs)

- i. Genetic diversity, Species diversity, Plant diversity at the ecosystem level, Agro biodiversity and cultivated plant taxa, wild taxa.
- ii. Values and uses of biodiversity: Ethical and aesthetic values,
- iii. Methodologies for valuation, Uses of plants.

#### Unit -II: Loss of biodiversity: (12hrs)

- i. Loss of genetic diversity, Loss of species diversity, Loss of ecosystem diversity, Loss of agro biodiversity, projected scenario for biodiversity loss
- ii. Management of plant biodiversity: Organizations associated with biodiversity management-Methodology for execution-IUCN, UNEP, UNESCO, WWF, NBPGR; Biodiversity legislation and conservations, Biodiversity information management and communication.

#### Unit-III: Contemporary practices in resource management: (12hrs)

- i. Environmental Impact Assessment (EIA), Geographical Information System GIS, Participatory resource appraisal, Ecological footprint with emphasis on carbon footprint, Resource accounting;
- ii. Solid and liquid waste management

#### Unit -IV: Conservation of biodiversity (12hrs)

- i. Conservation of genetic diversity, species diversity and ecosystem diversity, *In situ* and *ex situ* conservation,
- ii. Social approaches to conservation, Biodiversity awareness programmes, Sustainable development.

## Unit- V: Role of plants in relation to Human Welfare (12hrs)

- i. Importance of forestry, their utilization and commercial aspects-
  - a) Avenue trees, b) ornamental plants of India. c) Alcoholic beverages through ages.
- ii. Fruits and nuts: Important fruit crops their commercial importance. Wood, fiber and their uses.

### Suggested Readings:

1. Krishnamurthy, K.V. (2004). An Advanced Text Book of Biodiversity - Principles and Practices. Oxford and IBH Publications Co. Pvt. Ltd. New Delhi.
2. Singh, J. S., Singh, S.P. and Gupta, S. (2006). Ecology, Environment and Resource Conservation. Anamaya Publications, New Delhi.
3. Rogers, P.P., Jalal, K.F. and Boyd, J.A. (2008). An Introduction to Sustainable Development. Prentice Hall of India Private Limited, New Delhi.

**Suggested activities:** Study of flora and its diversity in the college campus or local area, enumerating wild and exotic species (*Parthenium*, Water hyacinth etc.)

Project work on any one of the International organizations striving for preservation of biodiversity, study of conservation efforts of local people, and civic bodies, study of locally available fruits in different seasons, enumerating the avenue plantations and their diversity in your town/city

**Paper – VIII-A-1 : Practicals: PLANT DIVERSITY AND HUMAN WELFARE**

- 1) Study of plant diversity (flowering plants).
- 2) Study of exotic species- Identification and morphological characteristics.
- 3) Identification of forest trees through bark, wood, flowers, leaves and fruits.
- 4) Maceration, Study of wood (Tracheary elements, fibres).
- 5) Methods of preservation and canning of fruits.
- 6) Visit to the local ecosystem to study the plants.
- 7) Write up on the conservation efforts of International organizations.
- 8) Study of Solid and Liquid waste management systems in rural/urban areas.

**Domain skills expected to achieve:** Identification of exotic plant species, identification of forest trees based on the characteristics of bark, flowers and fruits, understanding the preservation methods of fresh and dry fruits, understanding the methods of safe disposal of biodegradable and non-biodegradable wastes

## **SCHEME OF PRACTICAL EXAMINATION**

### PRACTICAL- VIII-A-1 : Cluster Elective (MODEL QUESTION PAPER) PLANT DIVERSITY AND HUMAN WELFARE

Time: 3hrs

Max. Marks: 50

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I. Assign the plants **A, B and C** to their respective families, giving reasons, family name and classification-2 marks, important diagrams- 3 marks.

**15 marks**

II. Give the protocol of **D** **10 marks**

III. Comment on specimens **E, F and G** **3x3 = 9 marks**

IV. Report on Field visit **6 marks**  
To study sources of firewood (10 plants), timber-yielding trees (10trees) and bamboos.

V. Viva-Voce **5 marks**

VI. Practical Record **5 marks**

### **KEY**

A-Cultivated Plant

B- Wild Plant

C –Exotic plant

D- Preservation and canning of fruits, solid and liquid waste management systems in rural/urban areas

E. Bark/wood/fruit yielding plant

F. Nuts/ Alcoholic beverage plant

G. wood /Fibre yielding plant

### III B. Sc - BOTANY SYLLABUS

#### SEMESTER- VIII : CLUSTER ELECTIVE -A

#### Paper VIII-A-2 : ETHNOBOTANY AND MEDICINAL BOTANY

Total hours of teaching 60hrs @ 3hrs per week

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#### Unit –I: Ethnobotany (12hrs)

- i. Introduction, concept, scope and objectives; Ethnobotany as an interdisciplinary science. The relevance of ethnobotany in the present context
- ii. Major and minor ethnic groups or Tribals of India, and their life styles.
- iii. Plants used by the tribal populations: a) Food plants, b) intoxicants and beverages, c) Resins and oils and miscellaneous uses.

#### Unit -II: Role of ethnobotany in modern Medicine: (12hrs)

- i. Role of ethnobotany in modern medicine with special example *Rauvolfia sepentina*, *Trichopus zeylanicus*, *Artemisia annua*, *Withania somnifera*.
- ii. Medico-ethnobotanical sources in India
- iii. Significance of the following plants in ethno botanical practices (along with their habitat and morphology)
  - a) *Azadirachta indica*, b) *Ocimum sanctum*, c) *Vitex negundo*, d) *Gloriosa superba*, e) *Tribulus terrestris*, f) *Phyllanthus niruri*, g) *Cassia auriculata*, h) *Indigofera tinctoria*, i) *Senna auriculata* j). *Curcuma longa*.
- iv. Role of ethnic groups in the conservation of plant genetic resources.

#### Unit-III: Ethnobotany as a tool to protect interests of ethnic groups (12hrs)

- i. Sharing of wealth concept with few examples from India.
- ii. Biopiracy, Intellectual Property Rights and Traditional Knowledge.



## Unit -IV: History, Scope and Importance of Medicinal Plants.

### indigenous Medicinal Sciences (12hrs)

- i. Definition and Scope-**Ayurveda**: History, origin, panchamahabhutas, saptadhatu and tridosha concepts, Rasayana, plants used in ayurvedic treatments.
- ii. **Siddha**: Origin of Siddha medicinal systems, Basis of Siddha system, plants used in Siddha medicine.
- iii. **Unani**: History, concept: Umoor-e- tabiya, tumors treatments/therapy, polyherbal formulations (in brief).

## Unit -V: Conservation of endangered and endemic medicinal plants: (12hrs)

- i. Definition: endemic and endangered medicinal plants,
- ii. Red list criteria
- iii. *In situ* conservation: Biosphere reserves, sacred groves, National Parks
- iv. *Ex situ* conservation: Botanical Gardens.

**Suggested Activities:** Studying plant utilization methods by tribal/rural/migrant populations for their beverages, food, medicinal and uses, seminars on role of ethnic groups in conservation of plant genetic resources, project work on traditional knowledge about plant medicines, study of indigenous medicinal sciences and their efficacy.

### Suggested Readings:

- 1) S.K. Jain, Manual of Ethnobotany, Scientific Publishers, Jodhpur, 1995.
- 2) Glimpses of Indian. Ethnobotny, Oxford and I B H, New Delhi – 1981.
- 3) S.K. Jain (ed.) 1989. Methods and approaches in ethnobotany. Society of ethnobotanists, Lucknow, India.
- 4) S.K. Jain, 1990. Contributions of Indian ethnobotny. Scientific publishers, Jodhpur.
- 5) Colton C.M. 1997. Ethnobotany – Principles and applications. John Wiley and sons – Chichester
- 6) Rama Ro, N and A.N. Henry (1996). The Ethnobotany of Eastern Ghats in Andhra Pradesh, India. Botanical Survey of India. Howrah.
7. Trivedi P C, 2006. Medicinal Plants: Ethnobotanical Approach, Agrobios, India.
8. Purohit and Vyas, 2008. Medicinal Plant Cultivation: A Scientific Approach, 2nd edn. Agrobios, India.
9. Pal, D.C. & Jain, S.K., 1998. Tribal Medicine. Naya Prakash Publishers, Calcutta
10. Raychudhuri, S.P., 1991. (Ed.) Recent advances in Medicinal aromatic and spice crops. Vol.1, Today & Tomorrow's printers and publishers, New Delhi

**Cluster Elective VIII-A-2: Practical:****ETHNOBOTANY AND MEDICINAL BOTANY**

1. Ethnobotanical specimens as prescribed in theory syllabus
2. Detailed morphological and anatomical study of medicinally important part(s) of locally available plants (Minimum 8 plants) used in traditional medicine.
3. Field visits to identify and collect ethno medicinal plants used by local tribes/folklore.

**Domain skills expected to achieve:** Identification of various plant parts used as medicines by ethnic groups, understanding the difference between ancient wisdom and modern system of medicine, traditional medicine at the rescue of curing drug resistant maladies like malaria and viral diseases, understanding the role of spices in Indian kitchens, their therapeutic role

**PRACTICAL- VIII-A-2 Cluster Elective: MODEL QUESTION PAPER**

**Paper VIII-A-2: ETHNOBOTANY AND MEDICINAL BOTANY**

**Time: 3 Hours**

**Max. Marks- 50**

I. Identify the specimen A- Give reasons (morphological and anatomical) and draw labeled sketches 15marks

II. Identify and write about the medicinal uses of B-and C- 2x5= 10 marks.

III. Comment on D and E. 2x 4=8 marks

IV. Report on Field visit: 7 marks

List to be prepared mentioning special features of plants used by tribal populations as Medicinal Plants & Spices. Write their botanical and common names, parts used and diseases/disorders for which they are prescribed.

V. Viva-voce 5 marks

VI. Record 5 marks

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Total = 50 marks

**KEY**

A-Plants given in unit II (i)

B-Plants used in Ayurvedic preparations (Amla in Chyavanprash, Senna in Laxatives)

C - - Do -

D. Photographs of National parks, Biosphere reserves and Botanical gardens.

E. Photograph of famous personalities in Ayurveda/Siddha medicine.

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**III B. Sc - BOTANY SYLLABUS SEMESTER- VIII**  
**CLUSTER ELECTIVE, Paper VIII-A-3**

**Paper VIII-A-3: Pharmacognosy and Phytochemistry**

Total hours of teaching 60hrs @ 3hrs per week

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**Unit-I: Pharmacognosy (12hrs)**

Definition, Importance, Classification of drugs - Chemical and Pharmacological, Drug evaluation methods

**Unit –II: Organoleptic and microscopic studies: (12hrs)**

Organoleptic and microscopic studies with reference to nature of active principles and common adulterants of *Alstonia scholaris* (bark), *Adhatoda vasica*(leaf), *Strychnos nuxvomica* (seed), *Rauwolfia serpentina*(root) and *Zinziber officinalis Catharanthus roseus*.

**Unit-III: Secondary Metabolites: (12hrs)**

- i. Definition of primary and secondary metabolites and their differences, major types - terpenes, phenolics, alkaloids, terpenoids, steroids.
- ii. A brief idea about extraction of alkaloids. Origin of secondary metabolites – detailed account of acetate pathway, mevalonate pathway, shikimate pathway.

**UNIT-IV: Phytochemistry: (12hrs)**

Biosynthesis and sources of drugs:

- (i) Phenols and phenolic glycosides : structural types, biosynthesis, importance of simple phenolic compounds, tannins, anthraquinones, coumarins and furanocoumarins, flavones and related flavonoid glycosides, anthocyanins, betacyanins, stilbenes, lignins and lignans).
- (ii) Steroids, sterols, saponins, withanolides, ecdysones, cucurbitacins:  
Biosynthesis, commercial importance.
- (iii) Alkaloids: Different groups, biosynthesis, bioactivity.
- (v) Volatile oils, aromatherapy.

## **UNIT-V: Enzymes, proteins and amino acids as drugs: (12hrs)**

- i. Vaccines, toxins and toxoids, antitoxins, immune globulins, antiserums,
- ii. Vitamins, Antibiotics – chemical nature, mode of action.
- iii. Pharmacological action of plant drugs – tumor inhibitors, PAF antagonists, antioxidants, phytoestrogens and others.
- iv. Role of different enzyme inhibitors.

**Suggested Activities:** Isolation techniques of active principles from various parts of popular medicinal plants, debates on the efficacy of plant medicines and palliative cure, volatile oils from plants-extraction methods, project work on crude drugs

### **BOOKS FOR REFERENCE:**

1. Wallis, T. E. 1946. Text book of Pharmacognosy, J & A Churchill Ltd. 2. Roseline, A. 2011. Pharmacognosy. MJP Publishers, Chennai.
2. Gurdeep Chatwal, 1980. Organic chemistry of natural products. Vol.I.Himalaya Publishing house.
3. Kalsi, P. S. and Jagtap, S., 2012. Pharmaceutical medicinal and natural product chemistry N.K. Mehra . Narosa Publishing House Pvt. Ltd. New Delhi.
4. Agarwal, O. P. 2002. Organic chemistry–Chemistry of organic natural products. Vol. II. Goel publishing house , Meerut.
5. Harborne, J. B. 1998. Phytochemical methods –a guide to modern techniques of plant analysis 3 rd edition, Chapman and Hall
6. Datta & Mukerji, 1952. Pharmacognosy of Indian roots of Rhizome drugs. Bulletin No.1 Ministry of Health, Govt. of India.

### VIII-A-3: Pharmacognosy and Phytochemistry: PRACTICALS

1. Physical and chemical tests for evaluation of unorganized drugs- Asaphoetida. Honey, Castor oil. Acacia
2. Identification of bark drugs – cinchona, cinnamom
3. Identification of fruit drugs – Cardamom, Coriander
4. Identification of root and rhizome drugs- Ginger, Garlic, Turmeric
5. Identification of whole plant – Aloes, Vinca, Punarnava
6. Herbarium of medicinal plants ( minimum of 20 platns)
7. Collection of locally available crude drugs from local venders (minimum of 20)

**Domain skills expected to achieve:** Identification of various plant parts used as medicines, extraction of active principles from them, isolation by chromatographic techniques, learning callus culture techniques for secondary metabolite enrichment and understanding ethno-pharmacological principles

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**PRACTICAL: VIII-A-3 Cluster Elective: MODEL QUESTION PAPER**  
**Pharmacognosy and Phytochemistry**

Time: 3hrs.

Max. Marks=50

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|--|---------------------|
| I. Identify the given crude drugs <b>A&amp; B</b> by morphological study and chemical tests. | <b>10 marks</b>     |
| II. Perform suitable chemical test and identify the given phytochemical <b>C</b>             | <b>10 marks</b>     |
| III. Comment on D and E  | <b>2x5=10 marks</b> |
| IV. Herbarium and submission of drugs  | <b>10 marks</b>     |
| IV. Viva-Voce  | <b>5 marks</b>      |
| V. Practical Record  | <b>5 marks</b>      |

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<b>Total</b>	<b>=</b>	<b>50 marks</b>

**KEY**

A-Flower/fruit drugs

B-Rhizome/whole plant drugs

C- Tannins/ phenolics/steroids/ isoprenoids /Asaphoetida/ Honey/ Castor oil/ Acacia

D. Column Chromatography/ Gas Chromatogram/HPLC (photograph/ instrument used for chemical analysis of drugs

E. photograph/instrument used for tissue culture

III. B.Sc – Botany, Semester – VI  
Paper – VII – Elective (B) – Nursery Gardening and Floriculture  
Theory model Question Paper.

Time: 3hrs

Max Marks: 75

Section – A (short answer questions)

సెక్షన్-A లాఘు సమాధాన ప్రశ్నలు

Answer any five of the following questions

5x5 = 25

ఏదైనా ఐదు ప్రశ్నలకు జవాబులు వ్రాయుము

1. Planting. : మొక్కలను నాటే పద్ధతి.
2. Computer applications in land scaping. : లాండ్ స్కేపింగ్ కు కంప్యూటర్ అప్లికేషన్స్
3. Green House. : హరిత గృహము.
4. Ornamental trees. : అలంకరణా వృక్షాలు
5. Factors affecting flower production. : పుష్పాల ఉత్పత్తికి వాహకం కావు కారకాలు
6. Air – layering. : గాలిలో ఉంచు తాత్కాలికం
7. Perennials. : బహు వార్షికాలు
8. Packing of cut flowers. : కట్ ఫ్లవర్స్ (పుష్పాలు) ప్యాకింగ్

Section – B (Essay Questions)

సెక్షన్-B వ్యాసహర ప్రశ్నలు

Answer all of the following questions

5x10=50

అన్ని ప్రశ్నలకు సమాధానములు వ్రాయుము

9 a.) Discuss about objectives and building up of infrastructure for nursery.

నాగు మడి ఉద్దేశ్యాలు నిర్మాణా విధానమును చర్చించండి.

(Or)

b.) Write an essay on Nursery management and Routine Garden operations.

నర్సరీ నిర్వాహణ మరియు సాధారణ తోట పనులపై వ్యాసము వ్రాయండి.



10. a.) Enumerate and discuss about different types of gardening.

వివిధ రకాల ఆటల పెంక పద్ధతులను వివరించండి.

(Or)

b.) Explain gardening operations.

ఆటల పెంక విధి నమూనూ గుర్తి వివరించండి

11. a.) Explain Raising of seeds and seedling and transplanting of seedlings.

నాణ్యత విధానము, నాణ్యత పొలాలలో ప్రవేశపెట్టే పద్ధతిని వివరించండి.

(Or)

b.) Discuss about propagation of ornament plants.

అలంకరణ మొక్కల వ్యాప్తిని గుర్తి చర్చించండి

12. a.) Write an essay on ornamental bulbous and foliage plants.

అలంకరణ మంప మొక్కలు మరియు అండ్ మైన పత్రాల నిష్పత్తి మొక్కల పై వ్యాసములు ఉన్నాయి.

(Or)

b.) Discuss about cultivation of plants in pots.

కుంజీలలో మొక్కలను పెంచే విధానమును గుర్తి చర్చించండి.

13. a.) Discuss about management of pests and diseases.

మొక్కల కీటకాలు మరియు వ్యాధుల నివారణ పద్ధతులను గుర్తి వివరించండి.


(Or)

b.) Write an essay on methods of harvesting.

ఫలపండ్ల మరియు పొండ్ల విధానము గుర్తి వ్యాసము ప్రాముఖ్యత.

1. Dr. K. SUJATHA.

K. Sujatha B.O.S. chairperson.

2.  B.O.S. Member.  
Y. GOVINDARAJULU

III B.sc – Botany, Semester – VI

Paper – VIII – Cluster elective, Cluster – A

Paper – VIII A – I, Plant diversity and Human welfare

Theory model Question paper

Time: 3hrs

Max Marks: 75

Section – A (short answer questions)

సెక్షన్ - A లకు దీని ప్రశ్నలు

Answer any five of the following questions

5x5=25

ఏదైనా ఐదు ప్రశ్నలకు జవాబులు రావాలి

1. Uses of plants. : మొక్కల ప్రయోజనాలు
2. NBPGR. : ఎన్. బి. ఐ. జి. ఐ. రి.
3. Biodiversity Conservation. : జీవ వైవిధ్య సంరక్షణ.
4. Resource accounting. : వనరుల మూల్యాంకన
5. Social approaches to conservation. : సామాజిక అభివృద్ధి - సంరక్షణ.
6. Geographical information system. : భౌగోళిక డేటా సమాచార వ్యవస్థ
7. Wild taxa. : వన్య జాతులు
8. Avenue trees. : రహదారి వృక్షాలు

Section – B (Essay Questions)

సెక్షన్ - బి. (ఎసే ప్రశ్నలు)

Answer all of the following questions

5x10=50

ఈ క్రింది ప్రశ్నలన్నింటికీ సమాధానాలు రావాలి.

9. a) Write about species diversity and Agro biodiversity.

జాతి వైవిధ్యము మరియు ఆగ్రో బయోదైవ్యతను గుర్తించండి.

(Or)

- b) Discuss about values and uses of biodiversity.

జీవ వైవిధ్య యొక్క విలువలు మరియు ఉపయోగాలను గుర్తించండి.

10. a) Explain loss of genetic diversity and ecosystem diversity.

జన్యు వైవిధ్య, పర్యావరణ వైవిధ్య పై విశ్లేషణ చేయండి.  
(Or) కనీసం

b.) write an essay on biodiversity information management and communication.

జీవ వైవిధ్య సమాచార నిర్వాహణ మరియు సమాచార ప్రసారం.

11. a) Discuss about environmental impact assessment.

వాతావరణ ప్రభావాలను గురించి చర్చించండి.

(Or)

b.) write about solid and liquid waste management.

ఘన, ద్రవ వ్యర్థాల నిర్వాహణను గురించి చర్చించండి.

12. a.) write an essay on *in situ* and *ex situ* conservation.

స్థానిక, పరిస్థానిక సంరక్షణను గురించి చర్చించండి.

(Or)

b.) write about biodiversity awareness programmes and sustainable development

జీవ వైవిధ్య అవగాహన కార్యక్రమాలు మరియు సుస్థిర అభివృద్ధి.

13. a.) Discuss about importance and utilization of forestry.

అడవి సంపద ప్రాధాన్యత మరియు ఉపయోగం గురించి చర్చించండి.

(Or)

b.) write an essay on important fruit crops and their commercial importance.

ప్రధాన ఫలదాయక పంటలు మరియు వాణిజ్య ప్రాధాన్యతను గురించి చర్చించండి.

Dr. K. SUJATHA

1. K. Sujatha B.O.S. chairperson.

2. C.D. Govindanna B.O.C. member



BOTANY  
MODEL THEORY QUESTION PAPER  
III B.Sc., SEMESTER - VI

PAPER VIII A - 2: ETHNOBOTANY AND MEDICINAL BOTANY

Time : 3 Hrs.

Max. Marks: 75 Marks

Section - A సెక్షన్-A

5x5=25 Marks

Answer any five of the following.

నివ్వనా ఐదు ప్రశ్నలకు జవాబులు అవసరము  
Draw neat and labelled diagrams where ever necessary.

అవసరమైన చిత్ర పటములు గీయండి.

1. Concept and scope of Ethnobotany : ఎథనోబాటనీ పరిచయము.
2. Intoxicant plants : మత్తుకలిగించు మొక్కలు
3. *Rauvolfia serpentina* : రాల్ఫ్ ల్ఫియా సర్పెంటినా.
4. *Curcuma longa* : కుర్క్ యు లాంగ
5. Bio piracy : జీవ - హక్ దోచు
6. Umor - e - tabiya : ఉమూర్ - ఇ - తబియా
7. Tridosha Concept : త్రి దోష మూలాలు.
8. Botanical Gardens : బాటానికల్ గార్డెన్స్

Section - B సెక్షన్-B

5x10=50 Marks

Answer all Questions. : త్రి నిర్దేశిత ప్రశ్నలకు సమాధానములు అవసరము.

Draw neat and labelled diagrams where ever necessary.

అవసరమైన చిత్ర పటములు గీయండి.

9. (a) Write an essay on major ethnic groups of India.

భారతదేశములో గల (01) నిమ్న జాతులను గూర్చి విస్తృత ప్రయోగి

- (b) Write a detailed account on Food plants used by tribal populations.

నిమ్న జాతులు ఉపయోగించు ఆహార పంటలను గూర్చి  
వ్యాప్తముగా వివరించండి.

10. (a) Write about medico-ethno botanical resources in India

ಭಾರತ ವೈದ್ಯಕೀಯ-ವನ್ಯಜೀವಿ ಸಂಪನ್ಮೂಲಗಳ ಬಗ್ಗೆ ವೈದ್ಯಕೀಯ ಮತ್ತು ಜನಪ್ರಿಯ ಸಾಂಪ್ರದಾಯಿಕ ಔಷಧಿಗಳ ಬಗ್ಗೆ ವಿವರಿಸಿ. (01)

(b) Write about the role of ethnic groups in the conservation of Plant genetic resources

ವೈದ್ಯಕೀಯ ಮತ್ತು ಜನಪ್ರಿಯ ಸಾಂಪ್ರದಾಯಿಕ ಔಷಧಿಗಳ ಬಗ್ಗೆ ವೈದ್ಯಕೀಯ ಮತ್ತು ಜನಪ್ರಿಯ ಸಾಂಪ್ರದಾಯಿಕ ಔಷಧಿಗಳ ಬಗ್ಗೆ ವಿವರಿಸಿ.

11. (a) write about sharing of wealth concept with examples from India

ಭಾರತ ವೈದ್ಯಕೀಯ ಸಂಪನ್ಮೂಲದ ಹಂಚಿಕೆಯ ಬಗ್ಗೆ ವಿವರಿಸಿ. (01)

(b) Write an essay on Intellectual Property Rights (IPR).

ಜ್ಞಾನ ಸಂಪನ್ಮೂಲದ ಹಕ್ಕುಗಳ ಬಗ್ಗೆ ವಿವರಿಸಿ.

12. (a) What is Ayurveda? Describe the plants used in Ayurveda treatments.

ಆಯುರ್ವೇದವು ಏನು? ಆಯುರ್ವೇದದಲ್ಲಿ ಬಳಸಲಾಗುವ ಔಷಧಿಗಳ ಬಗ್ಗೆ ವಿವರಿಸಿ. (01)

(b) Write about the origin and basis of Siddha medicinal systems.

ಸಿದ್ಧ ವೈದ್ಯಕೀಯ ವ್ಯವಸ್ಥೆಯ ಮೂಲ ಮತ್ತು ಆಧಾರಗಳ ಬಗ್ಗೆ ವಿವರಿಸಿ.

13. (a) Write about endemic and endangered medicinal plants


ಭಾರತ ವೈದ್ಯಕೀಯ ಸಂಪನ್ಮೂಲಗಳ ಬಗ್ಗೆ ವಿವರಿಸಿ. (01)

(b). Write an essay on *in-situ* conservation of Biodiversity.

ಜೀವವೈವಿಧ್ಯದ ಸಂರಕ್ಷಣೆಯ ಬಗ್ಗೆ ವಿವರಿಸಿ.

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1. Dr. K. SUTATHA  
K. Sujatha B.O.S chairperson.

2.  B.O.S. member  
(D. Govindanathulu)



**III BSc SEMESTER VI**  
**Botany paper –VIII**  
**Cluster Elective, Paper VIII-A-3- Pharmacognosy & Phytochemistry**  
*Theory* Model Question Paper

SECTION-A  
నక్షత్ర - A

Answer any five of the following

5x5=25

వివేచి 5 ప్రశ్నలకు జవాబులు వ్రాయుము

1. Importance of Pharmacognosy  
ఫార్మకాగ్నోసి ప్రాముఖ్యత
2. Common adulterants of *Catharanthus Roseus*  
కదరాంధస్ రోసియస్ మొక్క భాగాలతో కల్పి చేసే పదార్థాలు
3. Differences between primary and secondary metabolites  
ప్రాథమిక మరియు ద్వితీయ మెటబోలైట్స్ మధ్య భేదాలు
4. Commercial importance of Saponins and Withanolides  
సపోనిన్స్ మరియు విథనోలైడ్స్ వాణిజ్య ప్రాముఖ్యత
5. Vaccines and toxins  
వాక్సిన్స్ మరియు టాక్సిన్స్
6. Aroma therapy  
అరోమా థెరపీ
7. Anthocyanins and Betacyanins  
ఆంథోసయనిన్స్ మరియు బీటాసయనిన్స్
8. Role of Enzyme inhibitors  
ఎంజైమ్ నిరోధకాల పాత్ర

SECTION-B  
నక్షత్ర - B

Answer all the questions

5x10=50

అన్ని ప్రశ్నలకు సమాధానం వ్రాయుము

9. (a) Explain chemical and pharmacological drug evaluation methods.

రసాయనిక మరియు ఔషధ మూల్యాంకన పద్ధతులను వివరించండి.

(OR)

- (b) Define pharmacognosy. Write an essay on classification of drugs.

ఫార్మకాగ్నోసిని నిర్వచించండి. ఔషధాల వర్గీకరణపై ఒక వ్యాసం వ్రాయండి.

10. (a) Write an essay on organoleptic and microscopic studies.

ఆర్గనోలేప్టిక్ మరియు మైక్రోస్కోపిక్ అధ్యయనాలపై ఒక వ్యాసం వ్రాయండి.

(OR)

- (b) Explain about common adulterants of medicinal plant parts like bark, leaf, seed, stem, root and other parts.

ఔషధ మొక్కల బెరడు, పత్రం, విత్తనం, కాండం, వేరు మరియు ఇతర భాగాలతో కల్పి చేసే పదార్థాల గురించి వివరించండి.

11. (a) Write an essay on Acetate pathway, Mevalonate pathway and Shikimate pathway of secondary metabolites.

ద్వితీయ జీవక్రియ ఉత్పన్న విధానాలైన అసిటేట్, మెవలోనేట్ మరియు షికిమేట్ పాథ్ వేల గురించి ఒక వ్యాసం వ్రాయండి.

(OR)

- (b) Write an essay on Terpenes, Phenolics, Alkaloids, Terpenoids and Steroids.

టెర్పెన్స్, ఫినాలిక్స్, ఆల్కలాయిడ్స్, టెర్పెనాయిడ్స్ మరియు స్టెరాయిడ్స్ పై ఒక వ్యాసం వ్రాయండి.

12. (a) Write an essay on biosynthesis and bioactivity of Alkaloids.

ఆల్కలాయిడ్స్ యొక్క జీవసంశ్లేషణ మరియు బయోఆక్టివిటీల గురించి ఒక వ్యాసం వ్రాయండి.

(OR)

- (b) Write an essay on biosynthesis of phenolic compounds-Tannins, Anthraquinones, Coumarins and Furanocoumarins.

ఫినాలిక్ సమ్మేళనాలైన టానిన్స్, ఆంథ్రాక్విన్సేన్స్, కొమారిన్స్ మరియు ఫ్యూరన్ కొమారిన్స్ జీవసంశ్లేషణ గురించి ఒక వ్యాసం వ్రాయండి.

13. (a) Write an essay on chemical nature and mode of action of vitamins and antibiotics.

విటమిన్లు మరియు యాంటీబయాటిక్స్ యొక్క రసాయన స్వభావం మరియు క్రియాశీలతను గురించి ఒక వ్యాసం వ్రాయండి.

(OR)

- (b) Explain the Pharmacological action of tumour inhibitors, antioxidants, phytoestrogens and other plant drugs.

కణితి నిరోధకాలు, యాంటీఆక్సిడెంట్స్, ఫైటోఈస్ట్రోజెన్లు మరియు ఇతర మొక్క ఔషధాల చర్యలను వివరించండి.

Dr. K. SUJATHA

K. Sujatha

B.O.S chairperson

D Sarada

Asst. Professor, SVA GDC  
Srikalahasthi