

K. U. K.

UPDATED SCHEME OF EXAMS. & SYLLABUS FOR B.SC.

**SCHEME OF EXAMINATION OF B. Sc. (MEDICAL)  
BOTANY**

**Semester – I**

Paper –I	Diversity of Microbes	Max Marks- 40+10	Time-3 Hrs.
Paper-II	Cell Biology	Max Marks- 40+10	Time-3 Hrs.

**Semester –II**

Paper-I	Diversity of Archegoniates	Max Marks- 40+10	Time-3 Hrs.
Paper-II	Genetics	Max Marks- 40+10	Time-3 Hrs.
Paper-III	Practicals(Annually)Semester-I&II	Max Marks- 80+20	Time-6 Hrs. (Two Sessions)

**Semester-III**

Paper-I	Biology and Diversity of Seed Plants-I	Max Marks- 40+10	Time- 3 Hrs.
Paper-II	Plant Anatomy	Max Marks- 40+10	Time-3 Hrs.

**Semester-IV**

Paper-I	Biology and Diversity of Seed Plants-II	Max Marks- 40+10	Time- 3 Hrs
Paper-II	Plant Embryology	Max Marks- 40+10	Time- 3 Hrs.
Paper-III	Practicals (Annually) Semester-III & IV	Max Marks- 80+20	Time- 6 Hrs. (Two sessions)

**Semester-V**

Paper-I	Plant Physiology	Max Marks- 40+10	Time – 3 Hrs
Paper-II	Ecology	Max Marks- 40+10	Time – 3 Hrs.

**Semester-VI**

Paper-I	Biochemistry & Plant Biotechnology	Max Marks - 40+10	Time-3 Hrs
Paper-II	Economic Botany	Max Marks - 40+10	Time 3 Hrs.
Paper-III	Practicals (Annually) Semester-V & VI	Max Marks - 80+20	Time- 6 Hrs (Two Sessions)

**Total Marks – 900**

\*20% marks allotted for Internal Assessment.

*Perf*

*Ravi*

Office Principal  
Indira Gandhi National College



1. Identify, classify and write short morphological notes giving well labelled relevant diagrams on the given specimens A, B, C and D (one each from Algae, Fungi, Bryophytes and Pteridophytes).  
26
2. Prepare the root smear and find out two different stages of Mitosis. Identify and show it to the examiners. Also give characters of identification.  
10
3. Numerical regarding Genetics (Mendelian Inheritance or Gene Interaction) as per syllabus.  
10
4. Identify giving two important characters of identification on spots 1, 2, 3 and 4 (one slide or material each from Algae, Fungi, Bryophytes and Pteridophytes).  
20
- 5.
6. Note-book, collection and collection report.  
12
7. Viva-voce.  
12

### LIST OF PRACTICALS (Semester I & II)

1. Stages of Mitosis from Material (Onion-root tips).
2. Experiments on Monohybrid and Dihybrid ratios.
3. Gene Interactions and modified Dihybrid ratios.
4. Chi-square analysis.
5. Type study- Specimens from Algae, Fungi, Bryophytes and Pteridophytes as per theory syllabus.
6. Field tour of an area rich in diversity of Archegoniates for collection of plants, plant diseases and preparation of Herbarium.
7. Preparation of Survey/Collection Report.

PAPER -III PRACTICALS

Max. Marks- 80+20  
Time- 6 Hrs. (2 Sessions)

**Biology and Diversity of Seed Plants, Plant Anatomy and Plant Embryology**

1. Describe/compare the given flowers A and B in semi-technical language giving V.S. of flowers, T.S. of ovaries, Floral Diagrams and Floral Formulae. Identify and assign them to their respective families giving reasons. 20
2. Identify, classify and write morphological notes on the given specimens C and D (from Gymnosperms) 10
3. Cut Transverse Section and prepare a double-stained permanent mount of the given material (from angiosperms/gymnosperms). Identify giving reasons and show it to the examiner. 12
4. Identify, giving the important characters of identification, the spots 1 and 2 (one material/slide each from gymnosperms and embryology of angiosperms). 10
5. Write morphological notes on the specimens E and F (from angiosperms). 10
6. Dissect out the globular/heart-shaped embryo from the given material. 4
7. Note-book, Collection and Collection Report. 12
8. Viva-voce. 12

RS-1

  
Offg. Principal  
Indira Gandhi National College  
LADWA Distt. Kurukshetra

SEMESTER-V

### List of Practicals

#### A. Physiology/Biochemistry

1. Demonstration of Imbibition by plaster of Paris method.
2. Demonstration of Osmosis by potato osmoscope method.
3. Demonstration of Plasmolysis and Deplasmolysis
4. To study the Structure of stomata (Dicot & Monocot)
5. To study the Osmotic pressure of onion scale/ Rhoec leaf peel by plasmolytic method.
6. Comparison of Stomatal and Cuticular Transpiration by four leaf /Cobalt chloride method.
7. Demonstration of transpiration by Ganong's/ Farmer's potometer.
8. To separate of photosynthetic pigments by thin layer/paper chromatography.
9. Demonstration of Ascent of sap/Transpiration pull.
10. To study the rate of photosynthesis under varying CO<sub>2</sub> concentration using Wilmott's bubbler.
11. To study the effect of light intensity on oxygen evolution during photosynthesis using Wilmott's bubbler.
12. Demonstration of aerobic respiration.
13. Demonstration of anaerobic respiration.
14. To study the evolution of heat during respiration
15. Demonstration of Manometric determination of R. Q.
16. Demonstration of phototropism, geotropism and hydrotropism.
17. Determination of peroxidase activity.
18. Simple tests for the detection of Carbohydrates(Monosaccharides, Disaccharides and Starch); Proteins and Fats.

#### B. Ecology

1. Determination of pH of soil and water samples by using Universal Indicator.
2. Study of physical properties of soil-soil density, water holding capacity etc.
3. Study of community structure by quadrat / line transect method.
4. Determination of density, abundance and frequency of species by quadrat method.
5. Morphological and anatomical features of hydrophytes, xerophytes and parasites in relation to their habitats.
6. To prepare a report on local visit to an industry to identify the source and types of Pollutants.

#### B. Utilization of plants & Applied Botany

1. Study of plant parts / products from the point of view of economic importance (as per theory syllabus).
2. To prepare any one of the tissue culture medium.
3. To prepare the slants and Petri plates for plant tissue culture.
4. Study of techniques of sterilization, culturing and sub-culturing of cell, tissues and organs.
5. Demonstration of anther culture, protoplast isolation and culture using suitable models / charts / photographs etc.
6. Brief introduction to the components and working of the instruments (oven, autoclave, incubator, centrifuge, laminar air flow and spectrophotometer)

*[Handwritten signature]*

**Paper-III Practicals : Plant physiology,  
Biochemistry,  
Biotechnology, Ecology, &  
Economic Botany.**

**Int. Assessment-20  
Max. Marks - 80  
Time- 6 hrs. (Two Sessions)**

1. Devise an experiment to demonstrate the physiological process (as per the list).  
Perform it and show it to the examiners. 15
2. Comment on the physiological/Biochemistry experiment  
(Specimen/ set-up / Model / Chart). 10
3. Test for carbohydrates / Proteins / Fats / Peroxidase activity. 5
4. Ecological experiment/Ecological Specimens A & B (as per the list) 10
5. Identify and Classify spots 1, 2, 3, and 4 from the point of view of economic importance  
and morphology of the plant part used. 20
6. Applied Botany experiment (as per the list). 8
7. Note Book, Collection and field report. 6 + 6 = 12
8. Viva-voce. 10

  
**Offg. Principal  
Indira Gandhi National College  
LADWA Distt. Kurukshetra**

Practical exams for the  
**PAPER – III PRACTICALS**  
B.Sc-Ist year 2<sup>nd</sup> semester April-May 2017

Session 2016-17  
Max. Marks -80+20\*

Time- 6 Hrs. (2 Sessions)

Serial Number	Roll No	Attendance
1	6367160	Pass
2	6367161	Pass
3	6367162	Pass
4	6367163	Pass
5	6367164	Pass
6	6367165	Pass
7	6367166	Pass
8	6367167	Pass
9	6367168	Pass
10	6367169	Pass
11	6367170	Pass
12	6367171	Pass
13	6367172	Pass
14	6367173	Pass
15	6367174	Pass
16	6367193	Pass
17	6367194	Pass
18	6367195	Pass
19	6367197	absent
20	6367199	Pass

**PAPER – III PRACTICALS**


B.Sc 4th semester April-May 2017

Session 2016-17

Max. Marks -80+20\*

Time- 6 Hrs. (2 Sessions)

Serial Number	Roll No	Attendance
1	5367184	Pass
2	5367186	Pass
3	5367187	Pass
4	5367188	Pass
5	5367189	Pass
6	5367192	Pass
7	5367194	Pass
8	5367195	Pass
9	5367197	absent
10	5367198	Pass
11	5367199	absent
12	5367182	Pass
13	5367183	Pass
14	5367206	absent

  
Ujj. Princi  
Indira Gandhi National College  
LADWA Distt. Kurukshetra

PAPER – III PRACTICALS  
B.Sc 6th semester April-May 2017

Time- 6 Hrs. (2 Sessions)

Session 2016-17  
Max. Marks -80+20\*

Serial Number	Roll No	Attendance
1	4366188	Pass
2	4366189	pass
3	4366190	Pass
4	4366191	Pass
5	4366192	Pass
6	4366194	Pass
7	4366195	Pass
8	4366196	Pass
9	4366201	Pass
10	4366202	Pass
11	4366202	Pass

12-1

  
Offg. Principal  
Indira Gandhi National College  
LADWA Distt. Kurukshetra