



# GOVERNMENT MOHINDRA COLLEGE PATIALA

(Affiliated to Punjabi University, Patiala)

NAAC ACCREDITED GRADE A+ CYCLE-I

NAAC REACCREDITED GRADE A (CGPA 3.86) CYCLE-II

AISHE CODE: C-22146

## INTERNAL QUALITY ASSURANCE CELL (IQAC)

**AMARJIT SINGH (PES-I)**  
Principal

**LOVELEEN PARMAR**  
IQAC Coordinator

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**INTERNAL QUALITY ASSURANCE CELL**

**IQAC**



## **GOVERNMENT MOHINDRA COLLEGE, PATIALA**

### **Supporting Documents/Additional Information**

*Title Percentage of students undertaking project work/field work/  
Internships (Data for the latest completed academic year)*

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Govt. Mohindra College, Patiala  
Dept. of Botany

1.3.2 Field work/project work/internship undertaking during the year 2022-23

ਸਾਲ	ਕਾਰਜ	ਸ਼ਿਕਸਕਾਂ ਦੀ ਸੰਖਿਆ	ਕਾਰਜ ਦਾ ਵੇਰਵਾ
2022-23	ਸ਼ਿਕਸਕਾਂ ਦੀ ਸੰਖਿਆ (ਮੁਕੰਮਲ)	41	ਸ਼ਿਕਸਕਾਂ ਦੀ ਸੰਖਿਆ ਮੁਕੰਮਲ ਕਾਰਜ ਸਮੇਂ ਸਿਰ ਸ਼ਿਕਸਕਾਂ ਦੀ ਸੰਖਿਆ ਮੁਕੰਮਲ

Field reports of all the students were submitted to external examiner.

HOD  
Botany  
Govt. Mohindra  
College  
Patiala

**Government Mohindra College, Patiala**

**BSc Medical Sem-III**

**Session 2022-23**

<b>Sr</b>	<b>Board University Roll No</b>	<b>Roll No</b>	<b>Student Name</b>
1	463100	2201	NAVJOT SINGH
2	462909	2202	TANVEER KAUR
3	463063	2203	AMITA GILL
4	462910	2204	TANU MAKKAR
5	463122	2205	HUSANPREET SINGH
6	462974	2206	NAVKHUSHMAN KAUR
7	462945	2207	RAMANPREET KAUR
8	462913	2208	TANISHA
9	462959	2209	POOJA RANI
10	463050	2210	DIKSHA
11	463082	2211	SUSHIL KUMAR
12	463024	2212	HARPREET KAUR
13	463011	2213	JASPAL KAUR
14	463019	2214	ISHA
15	462993	2215	MANDEEP KAUR
16	463103	2216	MOHIT SINGH
17	463026	2217	HARPREET KAUR
18	462905	2218	VEERINDER KAUR
19	463070	2219	AMANDEEP KAUR
20	463115	2220	JUJHAR SINGH
21	462942	2221	RIMPI
22	462988	2222	MANPREET KAUR
23	463143	2223	DAVINDER SINGH
24	463043	2224	GAURI
25	462921	2225	SIMRANJIT KAUR
26	463008	2226	JIYA
27	462989	2227	MANPREET KAUR
28	462992	2228	MANISHA RANI
29	463088	2229	SAGAR
30	463002	2230	KANCHAN TIWARI
31	463042	2231	GURLEEN
32	462963	2232	PARAMJEET KAUR
33	462979	2233	MUSKAN
34	463048	2234	EKAMJEET KAUR
35	463017	2235	JAGANDEEP KAUR
36	462951	2236	RAJDEEP KAUR
37	463093	2237	RAKESH KUMAR
38	463148	2238	ASHOK KUMAR
39	463129	2239	HARDEEP SINGH
40	463112	2240	KARANVEER SINGH
41	462980	2241	MUSKAN

## SYLLABUS

### B.Sc. Part-II (Semester-III and IV) Subject Botany

(Session 2021-22, 2022-23 and 2023-24)

<b>Semester-III</b>		
<b>THEORY</b>		
	<b>External Marks</b>	<b>Internal Assessment</b>
<b>Paper-V:</b> Diversity and Systematics of Gymnosperms	40	15 (Attendance: 3 + Assignment: 6 + House Test: 6)
<b>Paper-VI:</b> Diversity and Systematics of Angiosperms	40	15 (Attendance: 3 + Assignment: 6 + House Test: 6)
<b>PRACTICAL</b>		
Pertaining to Theory <b>Paper-V</b>		40
Pertaining to Theory <b>Paper-VI</b>		
Theory		80 Marks
Practical		40 Marks
Internal Assessment Pertaining to Theory Paper-V & VI		30 Marks
<b>Total</b>	<b>:</b>	<b>150 Marks</b>

<b>Semester-IV</b>		
<b>THEORY</b>		
	<b>External Marks</b>	<b>Internal Assessment</b>
<b>Paper-VII:</b> Plant Anatomy	40	15 (Attendance: 3 + Assignment: 6 + House Test: 6)
<b>Paper-VIII:</b> Development and Reproduction in Flowering Plants	40	15 (Attendance: 3 + Assignment: 6 + House Test: 6)
<b>PRACTICAL</b>		
Pertaining to Theory <b>Paper-VII</b>		
Pertaining to Theory <b>Paper -VIII</b>	40	
<b>Total Marks (Semester-IV)</b>		
Theory		80 Marks
Practical		40 Marks
Internal Assessment Pertaining to Theory Paper-VII & VIII		30 Marks
<b>Total</b>	<b>:</b>	<b>150 Marks</b>

**Note:**

- 1) The number of teaching hours per week will be three for each theory paper and three for each practical in every semester. In all, there will be 12 teaching hours per week covering both theory and practical requirements. (Six teaching hours for theory and Six teaching hours for practical per week)
- 2) Practical paper in each semester will be of 3 hours. The timing of practical examination will be 9.00 am to 12.00 noon.

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**SUGGESTED LABORATORY EXERCISES**

**Gymnosperms:**

**Cycas**

- I. Study of microsporophyll, megasporophyll and mature seed.
- II. Study through permanent slides – normal root (T.S.) and ovule (L.S.)
- III. Study through hand sections- coralloid root (T.S.), rachis (T.S.), leaflet (V.S.), pollen grains (W.M.)

**Pinus**

- I. Long and dwarf shoot, male and female cones, winged seeds.
- II. Study through permanent slides – root (T.S.), Male cone (L.S.), female cone (L.S.), ovule (L.S.), embryo (W.M.) showing polycotyledonous condition.
- III. Study through hand sections and preparation of permanent studies in young stem (T.S.), old stem (T.S., T.L.S. and R.L.S.), needle (T.S.), pollen grains (W.M.).

**Ephedra**

- I. Structure of male and female cones.
- II. Hand sections – Stem (T.S.), maceration to show vessel structure; pollen grains (W.M.)

**Angiosperms:**

The following genera are recommended for study. This list is only indicative. Teachers may select plants available in their locality.

1. Ranunculaceae: <i>Ranunculus, Delphinium.</i>	8. Rosaceae: <i>Rosa</i>
2. Brassicaceae: <i>Brassica, Iberis.</i>	9. Apocynaceae: <i>Neerium.</i>
3. Malvaceae: <i>Hibiscus, Abutilon.</i>	10. Asclepiadaceae: <i>Calotropis.</i>
4. Rutaceae: <i>Murraya, Citrus.</i>	11. Solanaceae: <i>Solanum, Withania.</i>
5. Fabaceae: <i>Faboideae: Lathyrus, Trigonella;</i> Caesalpinioideae: <i>Cassia;</i> Mimosoideae: <i>Acacia, Albizia.</i>	12. Euphorbiaceae: <i>Euphorbia, Phyllanthus.</i>
6. Apiaceae: <i>Coriandrum.</i>	13. Asteraceae: <i>Helianthus, Ageratum and Sonchus.</i>
7. Cucurbitaceae: <i>Cucurbita</i>	14. Lamiaceae: <i>Ocimum, Salvia.</i>
	15. Liliaceae: <i>Asparagus, Allium.</i>
	16. Poaceae: <i>Avena, Triticum.</i>

**Note for teachers:**

The students should be made familiar with the families listed in the syllabus in the practical classes with representative species or any other that may be available locally. The teacher should prevent students from collection of plants from nature and submitting them for the practical examination. Instead, the students should be trained in field botany and asked to prepare field reports for which students should be taken for botanical excursion.

**INSTRUCTIONS FOR PAPER SETTER  
PRACTICAL PAPER-III (PERTAINING TO THEORY PAPER- Paper-V & VI)**

Practical	Marks
1. Section cutting and preparation of permanent slide	05
2. Description of complete flower, along with V.S., floral diagram and referring to the family giving reasons.	06
3. Description of only two floral whorls of a given flower (to be given by the examiner)	04
4. <u>Field Report</u>	05
5. Two Morphological notes (Pertaining to Gymnosperms)	06
6. Identification of two spots and two slides (with atleast two diagnostic features)	06
7. Note-book	04
8. Viva-voce	04
	<hr/> 40 Marks <hr/>

Department of Botany (BSc. Medical Sem III)

