

M.Sc. BOTANY
SEMESTER III EXAMINATION DECEMBER 2024
MBO-CC303: Plant Resource Utilization and Medicinal Botany

Time: 2½ hours

Maximum Marks: 60

Note: This paper has 3 sections A, B, and C.

Section A: Attempt **ALL** the questions.

Section B: Attempt any **FOUR** questions.

Section C: Attempt any **TWO** questions.

CLO 1: describe origin, domestication, evolution and development strategies to improve agricultural crops through conventional plant breeding and genetic engineering (understand);

CLO 2: analyze botanical description, cultivation and uses of major economically important crops (analyze);

CLO 3: recall history of Indian system of medicine and evaluate chemical constituents from the various medicinally important plants (remember/evaluate) and;

CLO 4: access role of medicinal plants in modern medicine (evaluate).

BTL-Bloom's Taxonomy Levels

1-Remembering; 2-Understanding; 3-Applying; 4-Analyzing; 5-Evaluating; 6-Creating

SECTION A

Very Short Answer Questions (Attempt **ALL** the questions)

(15 x 1 = 15 marks)

Q.No.	Questions	Marks	CLO	BTL
1	What is a tuber? Give ONE example of tuberous crop.	1	2	2
2	Give ONE significant point of difference between cereals and millets.	1	2	3
3	Which food crops are a major source of protein?	1	2	2
4	Name the crop plant which possesses the most toxic protein on the Earth.	1	2	1
5	Mention the family to which ramie plant belongs to.	1	2	1
6	What is a plantation crop? Give ONE example of it.	1	2	2
7	Name the crop plant which is the richest source of lignans.	1	2	1
8	Who is the <i>Pioneer of Unani Medicine</i> in India?	1	3	1
9	What is common among seed bank, gene bank and pollen bank?	1	4	3
10	Define ethnobotany .	1	4	2
11	Name the Ministry of Government of India governing popularization and funding of research across all the traditional systems of medicine.	1	3	1
12	Name a common adulterant of <i>Crocus sativus</i> .	1	4	1
13	What are the sources of medicine under Unani system of medicine?	1	3	1
14	Name the gymnosperm which yields ginkgolides.	1	4	1
15	Mention TWO medicinal plants with anti-diabetic potential.	1	4	1

Please turn over

SECTION B

Short Answer Questions (Attempt any **FOUR** of the following)

(4 x 5 = 20 marks)

Q.No.	Question	Marks	CLO	BTL
1	State the limitations of the Vavilov concept of <i>Centres of Origin</i> of crop plants.	5	1	3
2	How genetic engineering has been employed for crop improvement?	5	1	3
3	Comment on the practices followed for cultivation of rice.	5	2	2
4	What are the <i>in-situ</i> methods of conservation of medicinal plants?	5	4	2
5	Define the IUCN Red List Categories of species.	5	4	3
6	What are the various diseases that can be treated using bio-actives from medicinal plants?	5	4	4

SECTION C

Long Answer Questions (Attempt any **TWO** of the following)

(2 x 12.5 = 25 marks)

Q.No.	Question	Marks	CLO	BTL
1	Elucidate botanical description, cultivation and uses of tomato and coffee.	12.5	2	2
2 a.	Outline the botanical description, cultivation and uses of rubber.	6.25	2	2
b.	Draw significant differences between controversial and substitution drugs, giving suitable examples.	6.25	4	3
3	Tabulate scientific name, family, part(s) used, chemical constituents and primary use for each of the following medicinal plants: <i>Artemesia annua</i> , <i>Catharanthus roseus</i> , <i>Digitalis purpurea</i> , <i>Podophyllum hexandrum</i> , <i>Taxus baccata</i> .	12.5	3	3
