

MAGADH UNIVERSITY

BODH GAYA



SYLLABUS
OF
PRE- Ph. D. REGISTRATION
ENTRANCE TEST

2014 onwards

FACULTY OF SCIENCES

Price Rs. 100/-

Time - 3 Hours

This paper will consist of questions pertaining to General Awareness of Botany. The questions will be of objective type to be asked from each of following five types. Each type will have ten (10) questions. All questions are compulsory.

1. Multiple Choice Type - 20 marks
Each questions will have four options, of which only one will be correct.
2. True and False Type - 20 marks
3. Matching Type - 20 marks
4. Fill in the Blanks Type - 20 marks
5. Assertion - Reasoning Type - 20 marks

PAPER - II

Time - 3 Hours

Full Marks-100

This paper will consist of descriptive type of questions to be asked from the prescribed syllabus of Botany.

There shall be two groups in this paper - Group A and Group B wise details are given below :

GROUP A

Contents	Total no. of Questions to be asked	No. of Questions to be answered	Type	Marks
Phycology, Microbiology, Mycology & Plant Diseases, Bryology, Pteridology, Gymnosperms	04 (Four)	Any 02 (Two)	2 Questions of long answer type and 2 questions of short answer type	20 each

GROUP - B

Contents	Total no. of Questions to be asked	No. of Questions to be answered	Type	Marks
Angiosperms Ecology, Cytology & Genetics, Plant Physiology and Biochemistry	06 (Six)	Any 03 (Three)	3 Questions of long answer type and 3 questions of short answer type.	20 marks

Detailed Syllabus of Paper - II

GROUP A

1. **Phycology** : Classification, General features of chlorophyta, Phaeophyta and Rhodophyta, Economic importance of Algae.
2. **Microbiology** : A general account of bacteria and viruses including reproduction and economic importance. A general account of mycoplasma.
3. **Mycology** : A general account of fungi including classification and economic importance.
4. **Plant Disease** :
 - i) An account of common seed-borne and soil-borne fungal disease of the crop.
 - ii) A general account of cultural, chemical and biological methods of control of plant disease.
 - iii) Symptoms, etiology and control measures of common diseases of paddy, wheat and pulses of Bihar.
5. **Bryology and Pteridology** : Salient features of Bryophyta and Pteridophyta and their origin and evolution.
6. **Gymnosperm** :
 - i) Distribution of Gymnosperm in India.

- ii) General account of Gymnosperm with special reference to Cordaitales and Coniferales.

GROUP - B

7. **Angiosperms :**

- i) Natural and phylogenetic system of classification of Angiosperms.
- ii) General account of modern tools of Taxonomy.
- iii) Importance of Botanical gardens and Herbaria.
- iv) Biodiversity and conservation.
- v) Salient features of the following orders/series :
Ranales, Parietales, Caryophyllinae, Geraniales, Rosales, Passiflorales, Umbellales, Rubiales, Asterales, Primulales, Gentianales, Polemoniales, Personales, Lamiales, Curvembryae, Multiovulatae Terrestris, Achlmydosparae, Unisexuales, Microspermae, Coronarieae, Calyciane and Glumaceae.

8. **Ecology :**

- i) Phytosociological studies
- ii) Autoecology
- iii) Productivity
- iv) Pollution

v) Phytogeography

vi) Important Ecological Research Centres of India

9. **Cytology & Genetics :**

i) Ultrastructure of Prokaryotic and Eukaryotic cells

ii) Chromosomal structure with nucleosome concept.

iii) Modern concept of gene in the light of recent developments.

iv) Techniques and significance of genetic engineering.

v) Mutation and its significance.

vi) DNA and RNA as genetic material.

vii) Genetic recombination and its significance.

viii) Structural and numerical changes of chromosomes.

10. **Plant Physiology and Biochemistry :**

i) Mechanism of Photosynthesis.

ii) Protein synthesis.

iii) Growth hormones.

iv) Enzymes.

v) Techniques and scope of tissue culture.

vi) Fat synthesis.

vii) Mineral nutrition

vii) Mechanism of stomatal movements.