

GUJARAT VIDYAPITH
Department of Microbiology
M.D. Gramseva Mahavidyalaya, Sadra, Ta.-Dist.- Gandhinagar

F.Y.B.Sc. Semester-I
BIO-101 Biology

Syllabus of Theoretical Portion (In Force form June 2014)
External Evaluation : Internal Evaluation = 60 : 40
(Total Teaching Hours = 30, Credit=02)

Unit-1 Plants **8 Hours**

- (1) **Classification of plant kingdom**
Algae – **Oscillatoria**, Spirogyra
Fungi – Mucor, Yeast,
Bryophyta – Riccia, Moss
Pteridophyta – Nephrolepis
Gymnosperm – cycus
Angiosperm – Sunflower, Maize
- (2) General Characters of Algae
- (3) General Characters of Blue green Algae (Cyanophyceae)
- (4) General Characters of green Algae (Chlorophyceae)
- (5) Cell Structure, thallus structure and Reproduction of following – Algae
Oscillatoria, Spirogyro

Unit-2 Fungi **8 Hours**

- (1) General characters of Fungi, Phycomycetes and Ascomycetes.
- (2) Life cycle of Mucor and yeast
- (3) Economic importance of Fungi Penicillium and Claviceps

Unit-3 Animal classification (Invertebrate)

8 Hours

- (1) **Protozoa** – Amoeba, Paramecium
Porifera – Euspongia
Coelenterata – Hydra, Coral
Platyhelminthes – Tapeworm Liver Fluke
Nematoda – Ascaris
Annelida – Earthworm
Arthropoda – Cockroach
Mollusca – Pila, Snail
Echinodermata – Starfish, Seurchin
- (2) Ultra structure and reproduction in Entamoeba.
- (3) Life history of plasmodium.
 - (1) Ultra structure in R.B.C.
 - (2) Pre erythrocytic Schizogony
 - (3) Exo erythrocytic Schizogony
 - (4) Erythrocytic Schizogony
 - (5) Sexual cycle in Mosquito

Unit-4 Plant Pathology

8 Hours

Symptoms, Causal Organism and disease cycle of followings

- (1) White rust of crucifers (Pathogen-Albugo candida)
- (2) Citrus Canker (Pathogen-Xanthomonas citri)
- (3) Tobacco Mosaic Virus (T.M.V.)

Reference Books

- (1) College Botany Volume I. Gangulee, Das, Datta, New Central Book Agency B/1
Culcutta
- (2) Algae, By **Vashishta 2005**, New Delhi
- (3) Fungi by **Vashishta**
- (4) Cryptogamic Botany **Vol.I G.M. Smith**
- (5) Invertebrate zoology by **P.S. Verma**
- (6) In Vertebrate series **R.L. Kotpal.**
- (7) Diseaser of crop Plants in India G. Rangaswami. New Delhi

Details of Practical syllabus

Unit-1 & 2

- (1) Classification of plant kingdom as per syllabus
- (2) Life cycle of Algae & Fungi as per syllabus
- (3) Permanent slide W.M. of Oscillatoria and Spirogyra
 - Scleriform conjugation in Spirogyra
 - Sporangia of zygospore of Mucor, Budding of yeast

Unit-3

Animal classification as per syllabus of theory

Unit-4

Identify the pathogen draw the labeled sketch and show your preparation to the examiner

White rust of crucifer

Citrus canker and T.M.V.

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F.Y.B.Sc. Semester-I
BIO-101 Biology Practical
(Semester-I Practical Examination)
Skeleton Paper- (Effective form June 2014)
(Total Marks -40)

Date:-

Time:-

1. Identify and classify with giving reason and draw the labeled diagrams of peculiarities observed in the given specimen "A" **(10)**
2. Identify the pathogen, Draw the labeled sketch and show your preparation to the examiner specimen "B" **(8)**
3. Expose the reproductive structure the specimen "C" Make labelled sketch and show your preparation to the examiner **(8)**
4. Identify and classify as per instructions **(10)**
Sp. 1. Identify and classify giving reactions
 2. Identify and classify giving reasons
 3. Identify and Describe
 4. Identify and Describe
 5. Identify and Describe Pathogen
5. (a) Viva **(4)**
 (b) Journal

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F.Y.B.Sc. Semester-II
BIO-201 Biology

Syllabus of Theoretical Portion (In Force form June 2014)
External Evaluation : Internal Evaluation = 60 : 40
(Total Teaching Hours = 30, Credit=02)

UNIT I: Morphology: Taxonomy

1. Inflorescence

Raceme – caesalpinia

Spike – Achyranthus.

Capitulum – Sunflower

Terminal cyme – Datura

Axially Cyme – Hibiscus

Biparous – Clerodendron

Multiparous – Nerium

2. Types of Astivation

3. Type of Placentation, Families

4. General characters, floral structural F.F. and F.D., common example of economic importance of Following Families.

5. Malvaceas, Apocynaceae

UNIT II: Economic Botany (Medicinal Plants)

(6 Hours)

Ginger, Adhatoda, Withania, Rauwolfia, Aloe, Tinospora

UNIT III- Anatomy

(8 Hours)

1. Study of plant tissue : simple and complex and types of vascular Bundles
2. Internal structural of sunflower and Maize in T.S & L.S.
3. Animal tissue: Dermal, Muscular, Nervous

UNIT IV: Animal Classification (Vertibrals)

(8 Hours)

1. Chondrichthyes:- Shark
Osteichthyes – Mackerel, Pufferfish
Amphibia- Frog
Reptilia- Common Lizard
Aves- Pigeon
Mammalia- Rat
2. Earthworm:
External Characters
Digestive system, Reproductive system

Reference Book

1. Systematic Botany by R. N. Sutaria
2. Taxonomy of Angiosperms by B. P. Pandey, S Chand Publication
3. Economic Botany by V. Verma
4. Economic Botany of Tropics by S. L. Kochhar
5. Anatomy by B. P. Pandey
6. Vertebrate Zoology by P. S. Verma
7. Invertebrate Series R. L. Kotpal

Details of Practical syllabus

Unit-1

Morphology and taxonomy as per theory syllabus.

Unit- 2

Mention the Botanical name Family part used. Chemical constituents and use of the following

Ginger, Adhatoda, Withania,

Rauwolfia, Aloe, Tinospora.

Unit- 3

Study of simple tissue in T.S. of maize and sunflower stem.

Study of complex tissue in L.S. of maize, sunflower and cucurbit stem.

Unit- 4

Vertebrate Animal classification as per theory syllabus.

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F.Y.B.Sc. Semester-II
BIO-201 Biology Practical
(Effective from June 2014)
(Skeleton paper for Practical Examination)

1. Make a stained preparation of T.S. or L.S. as per Instructions given for specimen “A” and show it to examiner. Draw a Labelle diagram. **(10)**
2. Refer the specimen “B” to its respective family giving reasons including F.F.& F.D. labeled diagrams **(8)**
3. Mention the Botanical name. Family parts used, Chemical constituents and uses of the specimen “C” **(8)**
4. Identify and Describe as per instructions **(10)**
Sp.
 1. Identify and classify
 2. Identify morphologically
 3. Identify morphologically
 4. Identify and Describe
 5. Identify as Economical uses
5. (a) Viva **(4)**
(b) Journal