



## BIOLOGY

# BOOKS - FULL MARKS BIOLOGY (TAMIL ENGLISH)

## SAMPLE PAPER - 16

### Botany Part I

1. First cell of male gametophyte in angiosperm is

A. Microspore

B. Megaspore

C. Nucleus

D. Primary Endosperm Nucleus

**Answer: A**



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2. In his classic experiments on Pea plants, Mendel did not use

A. Flowering position

B. Seed colour

C. Pod length

D. Seed shape

**Answer: C**



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**3.** Genes G S L H are located on same chromosome. The recombination percentage

is between Land G is 15%, Sand Lis 50%, H and S are 20%. The correct order of genes is

A. GHSL

B. SHGL

C. SGHL

D. HSLG

**Answer: B**



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4. Which one of the following is used as Biosensors ?

A. a) Electrophoresis

B. b) Bioreactors

C. c) Vectors

D. d) Electroporation

**Answer: B**



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5. Protoplast are the cells devoid of .....

A. a) Nucleus

B. b) Cell wall

C. c) Cell membrane

D. d) Cytoplasm

**Answer: B**



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6. Father of Indian Ecology \_\_\_\_\_

A. R. Misra

B. P. Maheswari

C. M.O. Parthasarathy

D. Shivaram Kashyap

**Answer: A**



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7. Which of the following is not a abiotic component of the ecosystem?

A. Bacteria

B. Humus

C. Organic compounds

D. Inorganic compounds

**Answer: A**



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**8.** The International treaty called the Montreal protocol was held in.



A. Canada

B. Japan

C. China

D. UK

**Answer: A**



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**Botany Part II**

1. What is meant by cytoplasmic inheritance ?



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2. Is there any possibility to transfer a suitable desirable gene to host plant without vector?

Justify your answer.



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3. Distinguish habitat and niche.



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4. What is meant by biological indicators ?

Give example .



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5. Write a short note on autoployploidy with

an example .



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6. Give an account on the role of Jasminum ans in perfuming.



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## Botany Part Iii

1. Give a concise account on steps involved in fertilization of an angiosperm plant.



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2. How crossing over differs from linkage ?



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3. Give an account of Mimicry .



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4. Explain Grazing food chain with example .



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5. What are the major activities carried out by forestry extension centres ?



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## Botany Part Iv

1. Give a detailed account on any one fibre yielding plant .



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2. Explain any five types of angiospermic ovules .



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3. (i) What is RNA interference ? How it is carried out ?

(ii) Name any two bacterial species used to generate polyhydroxybutyrate (PHB)



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4. What are the advantages of seed dispersal?



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## Zoology Part I

1. The promoter region of eukaryote is

.....

A. a) TATAA

B. b) AUGUT

C. c) UUUGA



D. d) AAAAU

**Answer: A**



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2. The age of fossils can be determined by

A. electron microscope

B. carbon dating

C. weighing of fossils

D. analysis of bones

**Answer: B**



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3. The Athlete's foot disease in human is caused by \_\_\_\_

A. Bacteria

B. Fungi

C. Virus

D. Protozoan

**Answer: B**



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4.  $CO_2$  is not released during

- A. Alcoholic fermentation
- B. Aerobic respiration in animals
- C. Lactate fermentation
- D. Aerobic respiration in plants

**Answer: C**



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5. The two chains of Insulin molecule are attached by \_\_\_\_\_

A. 70

B. 30

C. 45

D. 60

**Answer: B**



6. All populations in a given physical area are defined as

- A. Biome
- B. Ecosystem
- C. Ecotope
- D. Biotic factors

**Answer: A**



7. Which one of the following are at high risk extinction due to habitat destruction?

A. Mammals

B. Birds

C. Amphibians

D. Echinoderms

**Answer: C**



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8. Which among the following always decreases in a food chain across trophic levels?

A. Number

B. Accumulated chemicals

C. Energy

D. Biomass

**Answer: C**



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1. Apolysis favours *Taenia solium* . How ?



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2. What is corpus albicans ?



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3. Expand the following a) ZIFT , b) ICSI







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**4. What is Lyonisation?**



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**5. What is species richness ? Give example.**



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6. Write a note on 'Namami Ganga' programme.



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## Zoology Part Iii

1. How Erythroblastosis fetalis can be prevented ?



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2. Chemically DNA is more stable than RNA -  
Justify

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3. Write a note on Mutation theory .

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4. What is vaccine ? What are its types ?

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5. "Smoking and Tobacco chewing is injurious to health" - Comment on the statement.



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## Zoology Part Iv

1. Brief about female heterogamety.



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**2.** Meselson and Stahl's experiment proved the semi- conservation mode of DNA replication .  
Explain .



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**3.** Give a detailed account of Modern Synthetic Theory .



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4. Write in detail about various types of antigen- antibody reactions



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