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**BSCBOCN 101**

**First Semester B.Sc. Degree Examination, April/May 2022  
(NEP-2020) (2021-22 Batch Onwards)**

**BOTANY**

**Microbial Diversity and Technology  
(Discipline Specific Core Course)**

Time : 2 Hours

Max. Marks : 60

- Instructions :**
- 1) Answer Part – A and Part – B.
  - 2) Answer **four full** questions from Part – B, choosing **one full** question from **each** Unit.
  - 3) **All** questions on Part – B carry **equal** marks.
  - 4) **Draw** diagrams **wherever** necessary.

PART – A

Answer **any ten** of the following :

**(10×2=20)**

1. Name any four microbes found in food.
2. Mention any two contributions of B. V. Mundkar.
3. Mention types of electron microscopy.
4. Name the stages of microbial growth.
5. What is storage media ?
6. Define Pasteurization.
7. What is a lytic life cycle ?
8. Expand MTCC and ATCC.
9. Name any two general characters of Prions.
10. Define VAM Fungi and mention any two significance.
11. What is soredium ? Where do you find it ?
12. Define Phytoplasma. Name any one disease caused by it.

P.T.O.

**PART – B****Unit – 1**

13. a) Write a note on Three-domain system of classification. 4  
b) Explain phase contrast microscopy in detail. 6  
OR  
14. a) Mention the contributions of Paul Ehrlich. 3  
b) Give an account on principles of simple and differential staining. 7

**Unit – 2**

15. a) Explain sterilization by filtration. 4  
b) Give an account on indicator media and basal media. 6  
OR  
16. a) Write a note on any one method of disinfection. 3  
b) Explain the nutritional types of Bacteria. 7

**Unit – 3**

17. a) Give an account on ICTV system of classification. 4  
b) Explain pure culture technique. 6  
OR  
18. a) Write a short note on microbial preservation methods. 3  
b) Explain the multiplication of SARS-CoV-2. 7

**Unit – 4**

19. a) Explain Conjugation in bacteria. 4  
b) Describe the general methods of asexual reproduction in fungi. 6  
OR  
20. a) Explain homeomerous thallus in Lichen. 3  
b) Give an account on economic importance in fungi. 7
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**BSCZOCN 101**

**I Semester B.Sc. Degree Examination, April/May 2022  
(NEP-2020) (2021-22 Batch Onwards)**

**ZOOLOGY**

**Cytology, Genetics and Infectious Diseases  
(DSCC)**

Time : 2 Hours

Max. Marks : 60

**Instruction : Draw diagrams wherever necessary.**

**PART – A**

1. Answer **any six** questions from following questions : **(6×2=12)**
- What is exocytosis ?
  - Write the functions of peroxisome.
  - Name the nucleotides of RNA.
  - Name the subphases of prophase-I of meiosis.
  - State Mendel's law of independent assortment.
  - Define supplementary factors. Give an example.
  - What is karyotyping ?
  - Name the disease caused by Giardia and Wuchereria.

**PART – B**

**UNIT – I**

2. Answer **any two** of the following : **(2×3=6)**
- Enumerate the functions of microtubules.
  - Draw a neat labeled diagram of mitochondria.
  - Write a note on endomembrane system.
3. Answer **any one** of the following : **(1×6=6)**
- Give an account of chemical structure of plasma membrane.
  - Explain oxidative phosphorylation and electron transport system.

P.T.O.





UNIT – II

4. Answer **any two** of the following : (2×3=6)
- Enumerate the functions of nucleus.
  - Write a short note on apoptosis.
  - Explain briefly cellular junctions.
5. Answer **any one** of the following : (1×6=6)
- With the aid of neat labeled diagram, explain the process of mitosis.
  - Explain the structure of chromosome with a neat labeled diagram.

UNIT – III

6. Answer **any two** of the following : (2×3=6)
- Explain incomplete dominance w.r.to plumage pigmentation in fowls.
  - What is dominant epistasis ? Give an example.
  - Write a note on sex limited traits.
7. Answer **any one** of the following : (1×6=6)
- Give an account of genetic sex-determining system with suitable illustrations.
  - Explain genetic maternal effect with suitable example.

UNIT – IV

8. Answer **any two** of the following : (2×3=6)
- Explain the inheritance of colourblindness.
  - Write a note on Turner's syndrome.
  - Explain briefly the pathogenic bacteria.
9. Answer **any one** of the following : (1×6=6)
- Explain the endoerythrocytic cycle of *Plasmodium vivax* with suitable diagrams.
  - Give a detailed account on structural chromosomal anomalies.
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**BSCZOEN 101**

**I Semester Open Elective (NEP – 2020) Examination, April/May 2022**  
**ZOOLOGY**  
**(2021-22 Batch Onwards)**  
**Economic Zoology**

Time : 2 Hours

Max. Marks : 60

**Note :** Draw diagrams *wherever* necessary.

**PART – A**

I. Answer **any six** questions out of nine questions. **(6×2=12)**

- What is reeling with reference to sericulture ?
- Name the different castes found in honey bees.
- Name any two pests of honeybees.
- Name any four milk products.
- What are broilers ? Give two examples.
- What is aquaculture ?
- What is induced breeding ?
- Name any two indigenous forms of earthworms.
- Name any four uses of Lac.

**PART – B**

**Unit – I**

I. Answer **any three** out of four. **(3×3=9)**

- Briefly explain the life cycle of *Bombyx mori*.
- Explain any three silkworm diseases.
- Discuss the uses of honey.
- Give an account on disease management in apiculture.

P.T.O.

**BSCZOEN 101**



**(7×1=7)**

III. Answer **any one** out of two.

- a) Explain silkworm rearing techniques.
- b) Give an account on indigenous method of bee keeping.

**Unit – II**

**(3×3=9)**

IV. Answer **any three** out of four.

- a) Explain the advantages of dairy farming.
- b) Explain feed formulation for chicks.
- c) Mention the criteria for choosing suitable dairy animals.
- d) Write a note on Carp culture.

V. Answer **any one** out of two.

**(7×1=7)**

- a) With reference to dairy, explain loose housing system and conventional barn system.
- b) Write explanatory notes on poultry diseases and control measures.

**Unit – III**

VI. Answer **any three** out of four.

**(3×3=9)**

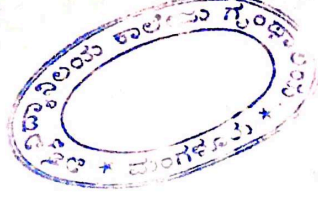
- a) Describe modern techniques of fish seed production.
- b) Explain preservation of prawn.
- c) Write the scope of vermiculture.
- d) Briefly explain the life cycle of Lac insect.

II. Answer **any one** out of two.

**(7×1=7)**

- a) Describe the habit categories of earthworms.
- b) Write an explanatory note on culture of marine prawns.





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**BSCBOEN 101**

**I Semester Open Elective (NEP – 2020) Examination, April/May 2022  
(2021 – 2022 Batch Onwards)**

**BOTANY****Plants and Human Welfare**

Time : 2 Hours

Max. Marks : 60

**Notes :** 1) Answer **all** the questions.

ಸೂಚನೆಗಳು : ಎಲ್ಲಾ ಪ್ರಶ್ನೆಗಳನ್ನು ಉತ್ತರಿಸಿ.

2) **Draw the diagram wherever necessary.**

ಅಗತ್ಯವಿದ್ದಲ್ಲಿ ಚಿತ್ರಗಳನ್ನು ಬರೆಯಿರಿ.

1. Answer **any ten** of the following questions :**(10×2=20)**

ಈ ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವುದಾದರೂ ಹತ್ತು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿ :

a) Write any two methods of plant conservation.

ಸಸ್ಯ ಸಂರಕ್ಷಣೆಯ ಯಾವುದಾದರೂ ಎರಡು ವಿಧಾನಗಳನ್ನು ಹೆಸರಿಸಿ.

b) Who is the father of green revolution in India ?

ಭಾರತದಲ್ಲಿ ಹಸಿರು ಕ್ರಾಂತಿಯ ಜನಕ ಯಾರು ?

c) Name the pulses grown in Karnataka.

ಕರ್ನಾಟಕದಲ್ಲಿ ಬೆಳೆಯುವ ಬೇಳೆಕಾಳುಗಳನ್ನು ಹೆಸರಿಸಿ.

d) Write any two uses of citrus.

ಸಿಟ್ರಸ್‌ನ ಎರಡು ಉಪಯೋಗಗಳನ್ನು ಬರೆಯಿರಿ.

e) Mention the by-products of the sugarcane industry.

ಕಬ್ಬು ಉದ್ಯಮಿಯ ಉಪ-ಉತ್ಪನ್ನಗಳನ್ನು ಹೆಸರಿಸಿ.

f) Give the scientific name and the family of Clove.

ಲವಂಗದ ಸಸ್ಯಶಾಸ್ತ್ರೀಯ ಹೆಸರು ಮತ್ತು ಕುಟುಂಬವನ್ನು ಹೆಸರಿಸಿ.

**P.T.O.**



g) Write any two uses of coffee.

ಕಾಫಿಯ ಯಾವುದಾದರೂ ಎರಡು ಉಪಯೋಗಗಳನ್ನು ಬರೆಯಿರಿ.

h) Give the classification of oils.

ತೈಲಗಳ ವರ್ಗೀಕರಣ ಮಾಡಿ.

i) Write the difference between therapeutic and habit-forming drugs.

ಚಿಕಿತ್ಸಾತ್ಮಕ ಹಾಗೂ ಮಾದಕ ಔಷಧೀಯ ದ್ರವ್ಯಗಳ ನಡುವಿನ ವ್ಯತ್ಯಾಸಗಳನ್ನು ಪಟ್ಟಿಮಾಡಿ.

j) Name any two bird sanctuaries of Karnataka.

ಕರ್ನಾಟಕದ ಯಾವುದಾದರೂ ಎರಡು ಪಕ್ಷಿಧಾಮಗಳನ್ನು ಹೆಸರಿಸಿ.

k) Define millets.

ಸಿರಿಧಾನ್ಯಗಳು ಎಂದರೆ ಏನು ?

l) Mention the type of fruit in cotton.

ಹತ್ತಿಯಲ್ಲಿ ಕಂಡುಬರುವ ಹಣ್ಣಿನ ವಿಧ ಯಾವುದೆಂದು ಹೆಸರಿಸಿ.

2. Answer any eight of the following questions :

(8×5=40)

ಈ ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವುದಾದರೂ ಎಂಟು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿ :

i) Give an account on the Vavilov's centers of origin of plants.

ವಾವಿಲೋವ್ ಪ್ರಕಾರ ಸಸ್ಯಗಳ ಉಗಮ ಕೇಂದ್ರಗಳ ಮೇಲೆ ಕಿರು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

ii) Write the post harvesting processing of rice.

ಭತ್ತದ ಕಟಾವಿನ ನಂತರದ ಸಂಸ್ಕರಣೆಯ ಕುರಿತಾದ ವಿವರಗಳನ್ನು ಬರೆಯಿರಿ.

iii) What is tapping ? Mention the steps involved in cultivation of rubber.

ಟ್ಯಾಪಿಂಗ್ ಎಂದರೇನು ? ರಬ್ಬರ್ ಕೃಷಿಯ ವಿವಿಧ ಹಂತಗಳನ್ನು ಬರೆಯಿರಿ.

iv) Explain the processing of Tea.

ಚಹಾ ಸಂಸ್ಕರಣೆಯ ಕುರಿತು ವಿವರಿಸಿ.

v) Write a note on the extraction process of coconut oil.

ತೆಂಗಿನ ಎಣ್ಣೆ ಉತ್ಪಾದಿಸುವ ಪ್ರಕ್ರಿಯೆಯನ್ನು ವಿವರಿಸಿ.





- vi) Give the classification of fibers based on their origin.  
ಉಗಮ/ಮೂಲದ ಆಧಾರದಲ್ಲಿ ನಾರುಗಳ ವರ್ಗೀಕರಣ ಮಾಡಿ.
- vii) Name any five endangered plants of Western Ghats.  
ಪಶ್ಚಿಮ ಘಟ್ಟಗಳಲ್ಲಿ ಕಂಡುಬರುವ ಯಾವುದಾದರೂ ಐದು ಅಪಾಯದಂಚಿನಲ್ಲಿರುವ ಸಸ್ಯಗಳನ್ನು ಹೆಸರಿಸಿ.
- viii) Mention the uses of Neem oil.  
ಕಹಿಬೇವಿನ ಎಣ್ಣೆಯ ಉಪಯೋಗಗಳನ್ನು ಬರೆಯಿರಿ.
- ix) Write the economic importance of pepper.  
ಕಾಳುಮೆಣಸಿನ ಆರ್ಥಿಕ ಪ್ರಾಮುಖ್ಯತೆಯ ಕುರಿತಾಗಿ ಬರೆಯಿರಿ.
- x) Explain the extraction process of *Eucalyptus* oil.  
ನೀಲಗಿರಿ ಎಣ್ಣೆ ಉತ್ಪಾದನಾ ಪ್ರಕ್ರಿಯೆಯ ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.
- xi) Write a note on cultivation process of Mango.  
ಮಾವಿನ ಕೃಷಿಯ ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.
- xii) What are pulses ? Write its importance to humans.  
ಬೇಳೆಕಾಳುಗಳು ಎಂದರೇನು ? ಮಾನವರಿಗೆ ಅವುಗಳ ಮಹತ್ವವೇನು ? ವಿವರಿಸಿ.
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