

लोक सेवा आयोग
नेपाल वन सेवा, बोटानी समूह, राजपत्र अनंकित प्रथम श्रेणीको खुला प्रतियोगितात्मक लिखित
परीक्षाको पाठ्यक्रम

यस पाठ्यक्रमलाई दुई भागमा विभाजन गरिएको छ ।

भाग	परीक्षा	विषय	पूर्णाङ्क	प्रश्न संख्या	समय	परीक्षा प्रणाली	उत्तीर्णाङ्क
१	लिखित	सेवा सम्बन्धी	१००	५०	४५ मिनेट	वस्तुगत बहुउत्तर (Multiple Choice)	४०
२	अन्तर्वार्ता		२०				

द्रष्टव्य :

- (१) पाठ्यक्रममा भएका यथा सम्भव सबै पाठ्यांशहरूबाट प्रश्न सोधिनेछ ।
- (२) गल्ती गरेको प्रश्नोत्तरका लागि २० प्रतिशत अंक कटौत गरिनेछ ।
- (४) यो पाठ्यक्रम २०५५ साल आषाढ ३२ गतेदेखि लागू हुनेछ ।

नेपाल वन सेवा, बोटानी समूह, राजपत्र अनंकित प्रथम श्रेणीको खुला प्रतियोगितात्मक लिखित
परीक्षाको पाठ्यक्रम
समय :- ४५ मिनेट प्रश्नसंख्या :- ५० पूर्णाङ्क :- १००

1. **Structure and Physiology**

- (a) The cell: Fine structure of the plant cell (Plasma membrane, Chloroplast, mitochondria, endoplasmic reticulum and nucleus).
- (b) The Tissue: Classification of tissues, internal structure of dicot and monocot root, stem and leaf.
- (c) Diffusion, Osmosis, water and mineral Transportation, Mechanism of stomatal opening and closing.
- (d) Translocation and food storage: translocation pathway, Mechanism of translocation, food storage in seeds and vegetative organs.
- (e) Photosynthesis: Importance of photosynthesis, Photosynthetic pigments, Mechanism of photosynthesis, Carbon dioxide assimilation, stages in photosynthesis, the light and dark reaction, Factors affecting the rate of photosynthesis, Limiting factors.
- (f) Respiration: Adenosine triphosphate, Respiratory Quotient, and Mechanism of respiration, factors affecting rate of respiration.
- (g) Growth: germination of seeds and dormancy, site of growth, phase of growth, measurement of growth, factors affecting growth and growth hormones.
- (h) Response: Tropic and mastic movement in plants, the physiology of flowering, photoperiodism and vernalization

2. **Diversity of Plant**

- (a) Principles of classification artificial, natural and phylogenetic systems of classification, binomial nomenclature, outline classification of the plant kingdom. Study of the characteristics of the following families of the plant kingdom cruciferae malvaceae, papilionaceae, compositae and solanaceae.
- (b) Virus: Characteristics, structure and life cycle of viruses with special reference of bacteriophage.
- (c) Bacteria: Characteristics, shape of bacteria, classification of bacteria, nutrition, respiration and reproduction of bacteria, importance of bacteria.
- (d) Algae: Structure and life cycle with special reference to spirogyra.
- (e) Fungi :
 - 1. Yeast: structure, significance of life cycle, alcoholic fermentation.
 - 2. Rhizopus nigricans: structure and life cycle
- (f) Bryophyta : Funaria (Morphology, significance of life cycle with special reference to alternation of generation)

- (g) Pteridophyta :Dryopteris and Selaginella (Morphology, significance of life cycle with special reference to alternation of generation).
 - (h) Gymnosperm : Pinus - Structure, significance of life cycle
3. **General**
- (a) Types of Vegetation in Nepal.
 - (b) Medicinal and aromatic plants of Nepal with reference to :
 - i. Jatamansi (*Nardostachys grandiflora*)
 - ii. Sarpagandha (*Rauwolfia serpentina*)
 - iii. Sugandh kokila (*Cinnamomum glaucasens*)
 - iv. Lemon grass (*Cymbopogon flexousces*)
 - v. Citronella (*Cymbopogon winterianus*)
 - (c) Common Orchids of Nepal
 - (d) Common Ornamental plants of Nepal
4. Laboratory and field techniques used in taxonomical, cytological, anatomical, physiological and ecological studies.

Model Questions

1. Which is the main pigment essential for photosynthesis
(A) Chlorophyll (B) Lycopene (C) Carotenes (D) All of the above
2. The root pressure theory explains the mechanism of
(A) Ascent of sap (B) Photosynthesis
(C) Respiration (D) None of the above
3. Among Pteridophytes which plant shows the greatest degree of reduction of the gametophytic tissues?
(A) Selaginella (B) Fern (C) Dryopteris (D) All of the above
4. Riccia belongs to class
(A) Hepaticae (B) Anthocerotae (C) Musci (D) None of the above
5. Phylogentic system of classification classifies plants on the basis of :
(A) Their evolutionary sequence
(B) Over all resemblance in gross morphology
(C) Testure
(D) Morphology of sex organs