3. Differentiate between the following (Any **three**) : (3×5=15)

   (i) Homologous and Analogous organs

   (ii) Darwinism and Neo-Darwinism

   (iii) Bottleneck Effect and Founder Effect

   (iv) Natural selection and Artificial selection

   (v) Anagenesis and Cladogenesis

4. (a) Discuss the Early vascular plants and Stelar evolution. (10)

   (b) Explain Evolution and development (evo-devo). (5)

5. (a) Discuss the anthropogenic actions that have caused the evolution. (7.5)

   (b) Discuss the Forces of Evolution. (7.5)

[This question paper contains 4 printed pages.]

09.01.24(M)

Your Roll No.....

Sr. No. of Question Paper : 1664 **G**

Unique Paper Code : 2163012001

Name of the Paper : Evolutionary Biology of Plants

Name of the Course : **B.Sc. (Hons.) Botany**

Semester : III

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **Four** questions in all, **first** question is compulsory.
3. **All** questions carry equal marks.
4. Attempt **all** parts of the question together.

1. (a) Define the following (**Any five**) : (1×5=5)

(i) Living fossil

(ii) Co-adaptation

(iii) Cladogenesis

(iv) Founder effect

(v) Homologous organs

(vi) Convergence in evolution

(b) Match the following : (1×5=5)

(i) Formation of life was preceded by chemical evolution	(a) Oparin and Haldane
(ii) Reproductive fitness	(b) Louis Pasteur
(iii) Life comes from pre-existing life	(c) Darwin
(iv) Law of inheritance of acquired characters	(d) Carl Woese
(v) RNA World Hypothesis	(e) Lamarck

(c) Fill in the blanks (**Any five**) : (1×5=5)

(i) Transfer of alleles from one population to another is known as _____.

(ii) _____ used the word 'reproductive fitness' which means those organisms who are better fit in their environment, produce a greater number of offsprings.

(iii) _____ is the process of formation of new species from existing populations.

(iv) The effect of _____ occurs in smaller populations.

(v) On the origin of species was written by _____.

2. (a) Write short notes (Any **three**) : (3×3=9)

(i) Genetic drift

(ii) Darwinism theory of evolution

(iii) Speciation

(iv) Concept of Stratigraphy

(b) Explain the Hardy Weinberg Principal. (6)