

## **UP Board 12 Biology (348(GK)) Question Paper**

<b>Time Allowed :3 hours</b>	<b>Maximum Marks :70</b>	<b>Total questions :33</b>
------------------------------	--------------------------	----------------------------

### **General Instructions**

**Read the following instructions very carefully and strictly follow them:**

- 1. All questions are compulsory.**
- 2. Illustrate your answers with labeled diagrams, wherever necessary.**
- 3. Marks allotted to each question are mentioned against it.**

## Multiple Choice Type Questions

---

**1. Choose the correct option and write in your answer-book:**

**(a) Pollen grains are well preserved as fossils because of the presence of which of the following?**

- (1) Pectin
  - (2) Sporopollenin
  - (3) Cellulose
  - (4) Lignin
- 

**(b) Who among the following proposed that evolution of life forms occurred due to use and disuse of organs?**

- (1) Lamarck
  - (2) Darwin
  - (3) T. Malthus
  - (4) Hugo de Vries
- 

**(c) Which of the following is a non-infectious disease?**

- (1) Malaria
  - (2) Typhoid
  - (3) Cancer
  - (4) Pneumonia
- 

**(d) Which of the following methods is used to introduce foreign DNA into the host cells?**

- (1) Microinjection
  - (2) Biolistics
  - (3) Disarmed pathogen
  - (4) All of these
-

## Very Short Answer Type Questions

2. Answer the following questions in brief:

(a) Which hormone is secreted by corpus luteum?

---

(b) What are stem cells?

---

(c) Give an example where more than two alleles govern the same character.

---

(d) Who propounded the chromosomal theory of inheritance?

---

(e) Name the food chain which begins with dead and decaying organic matter.

---

## Short Answer Type Questions I

3. Answer the following questions briefly:

(a) What do you mean by Mendelian disorders? Give an example of an autosome-linked Mendelian disorder.

---

(b) What is the haplodiploid sex determination system?

---

(c) Comment on bioinformatics.

---

(d) State two examples of artificial ecosystems.

---

(e) Define primary and secondary productivity.

---

## Short Answer Type Questions II

4. Answer the following questions briefly:

**(a) What is placenta? Describe the different functions of placenta in brief.**

---

**(b) With the help of a suitable diagram, explain the classical experiment of S.L. Miller regarding the origin of life.**

---

**(c) Comment upon the following:**

**(i) Infectious diseases**

**(ii) Amoebiasis**

---

**(d) Describe gel electrophoresis technique in brief.**

---

**5. Answer the following questions briefly:**

**(a) Describe the functions of vegetative and generative cells of a mature pollen grain with a suitable diagram.**

---

**(b) What is adaptive radiation? Describe it with an example.**

---

**(c) What are lymphocytes? Briefly describe the functions of two special types of lymphocytes present in our blood.**

---

**(d) Briefly explain the different steps involved in the construction of recombinant DNA.**

---

**6. Answer the following questions briefly:**

**(a) Comment on the following:**

**(i) Auto-immune disease**

**(ii) Opioids**

---

**(b) Describe the structure and functions of an antibody.**

---

**(c) What is a trophic level? Comment on different types of trophic levels in an ecosystem.**

---

**(d) Write a short note on decomposition.**

---

**Long Answer Type Questions I**

**7. Describe different abiotic and biotic agents of pollination in detail.**

---

**OR Write short notes on the following:**

**(i) Artificial hybridization**

**(ii) Triple fusion**

---

**8. Answer the following question in detail:**

**Describe the characteristic features of the human genome.**

---

**OR Write an explanatory note on human evolution.**

---

**9. Answer the following question in detail:**

**What is an ecological pyramid? Describe different types of ecological pyramids in brief.**

---

**OR Write short notes on the following:**

**(i) Effect of invasive alien species**

**(ii) Endangered species and their conservation**

---