

# MP Board Biology Questions 2024 Answer Key

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**Choose and write the correct option:**

(i) Mycorrhiza is an example of:

- (a) Parasitism
- (b) Commensalism
- (c) Mutualism
- (d) Decomposer

**Answer: (c) Mutualism**

(ii) How many chromosomes are present in endosperm (Angiosperm)?

- (a)  $n$  (Haploid)
- (b)  $2n$  (Diploid)
- (c)  $3n$  (Triploid)
- (d)  $4n$  (Tetraploid)

**Answer: (c)  $3n$  (Triploid)**

(iii) Persistent nucellus in the seed is known as:

- (a) lilum
- (c) Chalaza
- (b) Tegmen
- (d) Perisperm

**Answer: (d) Perisperm**

(iv) In sickle cell anaemia glutamic acid is replaced by valine. Which one of the following triplet code is for valine?

- (a) GGG
- (b) AAG
- (c) GAA
- (d) GUG

**Answer: (d) GUG**

(v) In malaria, the product released by mosquito into blood that causes chill and fever:

- (a) Haematin
- (b) Schuffner's dots
- (c) Haemozoin
- (d) Haemotoxin

**Answer: (c) Hacmozoin**

(vi) In agarose gel electrophoresis, DNA molecules are reported on the basis of their:

- (a) charge only
- (c) volume only
- (b) size only
- (d) charge and shape

Answer: (b) size only

**1** सही विकल्प चुनकर लिखिए :

(i) सिकल सेल एनीमिया (दात्र कोशिका - अरक्तता) में ग्लूटैमिक अम्ल वैलीन द्वारा प्रतिस्थापित हो जाता है। निम्नलिखित में से कौन-सा एक त्रिक कूट वैलीन के लिए है ?

- (a) GGG
- (b) AAG
- (c) GAA
- (d) GUG

Answer: (d) GUG

ii) मलेरिया के मच्छर द्वारा रुधिर में निर्मुक्त उत्पाद जो ठण्ड तथा बुखार उत्पन्न करता है -

- (a) हीमेटिन
- (b) स्क्फनर्स बिन्दु
- (c) हीमोजोइन
- (d) हीमोटॉक्सिन

Answer: (c) हीमोजोइन

(iii) ऐगारोज जेल इलेक्ट्रोफोरेसिस में डी.एन.ए. अणुओं का विलगन किस आधार पर होता है?

- (a) केवल आवेश
- (b) केवल माप (आकार)
- (c) केवल आयतन
- (d) आवेश और आकार

Answer: (b) केवल माप (आकार)

(iv) माइकोराइजा उदाहरण है -

- (a) परजीविता
- (b) सहभोजिता

- (c) सहोपकारिता
- (d) अपघटक

Answer: (b) सहभोजिता

- (v) भ्रूणपोष (आवृतबीजी) में कितने क्रोमोसोम होते हैं?
- (a)  $n$  (अगुणित)
- (c)  $3n$  (त्रिगुणित)
- (b)  $2n$  (द्विगुणित)
- (d)  $4n$  (चतुर्गुणित)

Answer: (c)  $3n$  (त्रिगुणित)

- (vi) बीज में अवशिष्ट बीजाण्डकाय को क्या कहा जाता है?
- (a) नामिका
- (b) अन्तःकवच
- (c) निभाग
- (d) परिभ्रूणपोष

Answer: d) परिभ्रूणपोष

## 2 Fill in the blanks with the correct answer:

- (i) Proinsulin contains \_\_\_\_\_ which is not found in mature insulin.

**Answer: C-peptide**

- (ii) \_\_\_\_\_ is caused by a mutation in a gene related to the adenosine deaminase enzyme.

**Answer: SCID**

- iii) The green plant in the ecosystem are called \_\_\_\_\_

**Answer: Producer**

- (iv) The process of release of ovum from a mature follicle is called \_\_\_\_\_

**Answer: Ovulation.**

- v) DNA fingerprinting involves identifying differences in some specific regions in Sequence called \_\_\_\_\_

**Answer: Repetitive DNA**

- (vi) Lactic acid bacteria convert milk into \_\_\_\_\_

**Answer: Curd**

## 3. Write True/False:

(i) *Clarias gariepinus* for aquaculture purposes is posing a threat to the indigenous catfishes in our rivers.

Answer: True

(ii) Humans are oviparous.

Answer: False

(iii) Syphilis is a sexually transmitted disease.

Answer: True

(iv) Lichens cannot be used as industrial pollution indicators.

Answer: False

(v) Genes that cause cancer are called oncogenes.

Answer: True

(vi) Each interferon has its own specialty

Answer: True

#### 4. Match the correct pair and write :

**A**

- (i) PBR322
- (ii) *Corona radiata*
- (iii) Structural genes
- (iv) T-Lymphocytes
- (v) Competition

**B**

- (a) detrimental interaction
- (b) z. y and a
- (c) bone marrow
- (d) vectors
- (e) ovum
- (f) RBCs

Answer:

- (i) PBR322 -(d) vectors
- (ii) *Corona radiata* - (e) ovum
- (iii) Structural genes-(b) z. y and a
- (iv) T-Lymphocytes -(c) bone marrow
- (v) Competition-(a) detrimental interaction

#### 5. Write answer in the one sentence:

(i) How do cytokine barriers provide innate immunity in humans?

**Answer: Interferons**

(ii) Write down the name of bacterium which produces 'Bt' toxin.

**Answer: *Bacillus thuringiensis* (Bt),**

(iii) What is called 'lungs of the earth'?

**Answer: Amazon Tropical rainforests**

(iv) Write the full form of ZIFT.

**Answer: Zygote intrafallopian transfer (ZIFT)**

(v) What substances did Miller take in his experiments?

**Answer: methane, water, hydrogen, and ammonia**

6. What is biopatent?

OR

What is golden rice? Write about it.

7 What do you understand by population density?

OR

Define camouflage and write an example.

8 What is hot spot? Write the name of a hot spot in India

OR

Name the three important components of bio-diversity.

9. What is amniocentesis ? Give its significance.

OR

What is MTP? Write its safety periods,

10 What is point mutation? Give an example.

OR

The human male never passes on gene for haemophilia to his son. Why

11. What is adaptive radiation? Give an example.

OR

Write Hardy-Weinberg principle.

12' Why are cyanobacteria considered useful in paddy fields?

OR

Why does Swiss cheese have big holes?

13 Write three differences between Biopesticides and Chemical pesticides.

OR

Draw a neat and clean labeled diagram of Biogas plant.

14 Why pyramid of energy is always upright? Explain it.

OR

Describe the interrelationship between productivity, gross primary productivity and net productivity.