

# Maharashtra HSC Biology 2024 Answer Key

## Question 1

(i) Identify the growth hormone in plants which causes inhibitory effect.

- (a) Cytokinins
- (c) Gibberellin
- (b) Absciscic acid
- (d) Ethylene

**Ans:** (b) Absciscic acid

(ii) Which one of the following is not a part of lac operon?

- (a) Promoter
- (c) Inducer
- (b) Regulator
- (d) Operator

**Ans:** (c) Inducer

(iii) In absence of fertilisation, corpus luteum degenerates into

- (a) tunica albuginea
- (b) membrana granulosa
- (c) zona pellucida
- (d) corpus albicans

**Ans:** (d) corpus albicans

(iv) Which of the following divides the nasal cavity?

- (a) Hyaline cartilage
- (b) Mesethmoid cartilage
- (c) Ligamentum arteriosum
- (d) Laryngopharynx

**Ans:** (b) Mesethmoid cartilage

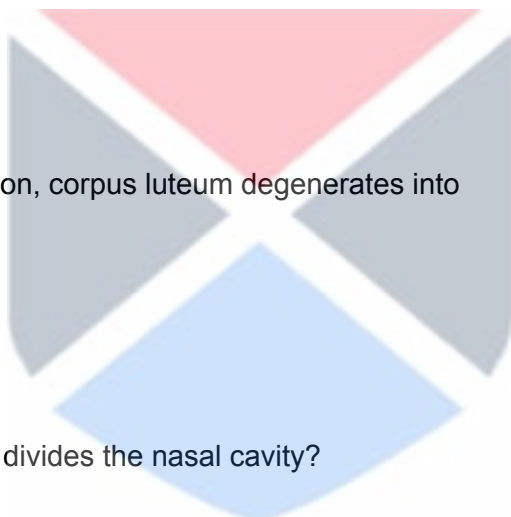
(v) Which of the following is caused by an unsterilized needle?

- (a) Elephantiasis
- (c) Malaria
- (b) AIDS
- (d) Dengue

**Ans:** (b) AIDS

(vi) Recognition sequence of restriction enzymes are generally nucleotides long.

- (a) 2 to 4
- (c) 8 to 10
- (b) 4 to 8



(d) 14 to 18

**Ans:** (c) 8 to 10

(vii) Which of the following types require pollinator but result is genetically similar to autogamy?

(a) Geitonogamy

(c) Apogamy

(b) Xenogamy

(d) Cleistogamy

**Ans:** (a) Geitonogamy

(viii) Which one of the following does not evolve further?

(a) Climax community

(b) Primary Succession

(c) Pioneer Species

(d) Seral Community

**Ans:** (a) Climax community

(ix) Identify the appropriate term for the number of births under ideal conditions:

(a) Absolute mortality

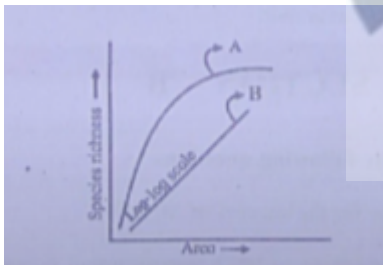
(c) Realized mortality

(b) Realized natality

(d) Absolute natality

**Ans:** (d) Absolute natality

(x) Observe the graph and select correct option:



(a) Line 'A' represents  $S = CA^Z$

(b) -Line 'B' represents  $\log C - \log A + Z \log S - CA^2$

(c) Line A represents  $S = CA^Z$

(d) Line B represents  $\log S \log Z + C \log A$

## Question 2

Answer the following questions:

(i) What are vestigial organs?

**Ans:** Vestigial organs are anatomical structures in organisms that have lost most or all of their original function through evolution.

(ii) Expand the term ZIFT.

**Ans:** Zygote Intrafallopian Transfer

(iii) Give the name of endocrine gland which is prominent at birth but gets gradually atrophied in adult stage.

**Ans:** thymus gland

(iv) What is the full form of IAA?

**Ans:** Indole-3-Acetic Acid

(v) Give the name of the microbial source of antibiotic chloromycetin.

**Ans:** Streptomyces venezuelae

(vi) Which cells of islets of Langerhans produce a hormone insulin?

**Ans:** beta cells

(vii) How many meiotic divisions are required for the formation of 300 seeds in angiosperm?

**Ans:** Two

(viii) Explain the term Emigration.

**Ans:** Movement of individuals out of a population or habitat to another area or habitat.