

# GENETICS, EVOLUTION OF LIFE & ECOLOGICAL BIODIVERSITY BASED GENERAL SCIENCE MCQ PRACTICE QUESTIONS AND ANSWERS PDF WITH EXPLANATION

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Created By [Careericons](#) Team

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**Q1.** The plant group that produces spores and embryo but lacks vascular tissues and seeds is

- a) Bryophyta
  - b) Pteridophyta
  - c) Rhodophyta
  - d) Phaeophyta
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**Q2.** According to special creation theory the earth is about

- a) 4.5 M yrs old
  - b) 4.5 B yrs old
  - c) 4000 yrs old
  - d) 10000 yrs old
- 

**Q3.** Ligase helps in

- a) translation
  - b) inserting few genes in DNA
  - c) removal of few genes
  - d) bringing transversion in chromosomes
- 

**Q4.** A nucleotide is formed of

- a) purine, sugar and phosphate
- b) nitrogenous bases, sugar and phosphate

c) purine, pyrimidine and phosphate

d) pyrimidine, sugar and phosphate

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**Q5.** About whom is said 'India's large wild cat' has recently become extinct?

a) Tiger

b) Cheetah

c) Leopard

d) Lion

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**Q6.** Gaucher's disease is associated with abnormal metabolism of

a) protein

b) nucleic acid

c) fat

d) carbohydrate

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**Q7.** A modification of leaf is

a) Cladode

b) Tendrils

c) Phylloclade

d) Corm

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**Q8.** Organisms which display properties of both living and non-living are

a) Lichens

b) Viruses

c) Diatoms

d) Bacteria

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**Q9.** Polar bears are carnivores and prey on many arctic birds and fishes. However, under natural conditions, no one found polar bears predating any penguin. This is because

a) polar bears and penguins never coexist under natural conditions. The former lives in the North Pole while the latter lives in the South Pole

b) penguins have chemical substance in their muscles which is toxic to polar bears

c) penguins are gregarious and always move in groups. Therefore, a polar bear cannot approach them

d) None of these

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**Q10.** In terms of the evolution of organisms, which one among the following is the most advanced?

a) Shark

b) Bat

c) Pigeon

d) Vulture

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**Q11.** Sex-determination by environmental factors is commonly observed in

a) *Melandrium album*

b) *Mirabilis jalapa*

c) *Drosophila melanogaster*

d) *Bonellia viridis*

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**Q12.** Consider the following statements :

- Test is used to determine an unknown genotype within one breeding generation.
- Test cross is a cross between  $F_1$  hybrid and dominant parent.
- Test cross is a cross between  $F_1$  hybrid and recessive parent.

Which of the statement(s) given above is/are false about test cross?

- a) 3 only
- b) 2 only
- c) 1 only
- d) 1, 2 and 3

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**Q13.** Which of the following is the X-linked genetic disease?

- a) Martin-Bell syndrome
- b) Daltonism or colour blindness
- c) Duchenne's muscular dystrophy
- d) Both (a) and (b)

**Q14.** One of the following is a very unique feature of the mammalian body

- a) Rib cage
- b) Presence of diaphragm
- c) Four chambered heart
- d) Homeothermy

**Q15.** Consider the following statements :

- The terms 'gene' and 'allele' were coined by Johansen.
- Chromosomal theory of inheritance was given by Sutton and Boveri.
- 'One gene-one enzyme' hypothesis was given by 'Beadle and Tatum'.

Which of the statements given above are **correct**?

- a) 1 and 2
- b) 2 and 3
- c) 1, 2 and 3
- d) None

## Answers to the above questions :

### Q1. Answer: (a)

Bryophytes are the plants which produces spores and embryo but no vascular tissues are present, although primitive type of conducting tissues are present in the form of hadrome and leptome.

### Q2. Answer: (c)

### Q3. Answer: (b)

Ligase helps in inserting few genes in DNA.

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**Q4. Answer: (b)**

Nucleotide is a unit of DNA, which is formed of nitrogenous bases (purines & pyrimidines), sugar (pentose) & phosphate.

**Q5. Answer: (b)**

**Q6. Answer: (c)**

Gaucher's disease is a genetic disease in which a fatty substance (lipid) accumulates in cells and certain organs. The disorder is characterized by bruising, fatigue, anemia, low blood platelets, and enlargement of the liver and spleen.

**Q7. Answer: (b)**

**Q8. Answer: (b)**

**Q9. Answer: (b)**

**Q10. Answer: (b)**

**Q11. Answer: (d)**

The Green Spoonworm (*Bonellia viridis*) is a marine worm noted for displaying exceptional sexual dimorphism due to environment factors.

**Q12. Answer: (b)**

Test Cross involves the breeding of a dominant trait individual with a homozygous recessive individual, in order to determine the zygosity of the former by analysing proportions of offspring with the recessive phenotype.

**Q13. Answer: (d)**

Colour blindness is the most common sex-linked genetic disorder, which is also expressed in recessive conditions.

Duchenne's Muscular Dystrophy is caused by the "Dystrophin" gene which is the longest gene with 24,000 kbp in the human genome.

**Q14. Answer: (b)**

**Q15. Answer: (c)**

The Boveri–Sutton chromosome theory or Chromosomal theory of inheritance is a fundamental unifying theory of genetics which identifies chromosomes as carriers of genetic material.

One gene one protein hypothesis was given by Beadle and Tatum which was later outdated after the discovery of alternate splicing.

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