

Department of Botany

Budge Budge College

2. Teaching, Learning and Evaluation

2.8 Examination/ Evaluation Reforms initiated by the Institution (for example: Open Book Examination, Bar Coding, Double Valuation, Photocopy, Online Multiple Choice Questions)

Online Multiple Choice Questions of Botany Honours

1. Which of the following statements about the fungi is **incorrect**?

- (a) Ascomycota are the largest group of fungi and ascospores are the meiospores
- (b) Basidiospores are morphologically less diverse than Ascospores
- (c) Zygosporangia are uninucleate structures formed as a result of gametic fusion
- (d) Oospores are sexually produced spores which are important in survival than dispersal

Ans. (c)

2. Which of the following is **correctly** matched?

- (a) Aflatoxins *Aspergillus niger*
- (b) *Morchella* sp Carcinogen
- (c) *Schizosaccharomyces pombe* Fission yeast
- (d) Cyclosporin *Claviceps purpurea*

Ans. (c)

3. The structure of DNA which represents sodium salt of DNA in a fibre produced at 92% relative humidity is called the

- (a) A form of DNA
- (b) B form of DNA
- (c) C form of DNA
- (d) Z form of DNA

Ans. (b)

4. Bacteriophage P1 has a double-stranded DNA with 91.5 kb. Calculate the number of Phosphorus atoms in this DNA molecule.

- (a) 91500
- (b) 183000
- (c) 274500
- (d) 366000

Ans. (b)

5. eIF4E is

- (a) an unwinding protein of eukaryotic DNA replication
- (b) a prokaryotic transcription factor
- (c) a protein associated with bacterial conjugation
- (d) eukaryotic mRNA's 5' end cap binding protein which helps to initiate translation

Ans. (d)

6. Presence of cypsela type of fruit is a/an

- (a) plesiomorphic character of Asteraceae
- (b) apomorphic character of Asteraceae
- (c) plesiomorphic character of Cucurbitaceae
- (d) apomorphic character of Cucurbitaceae

Ans. (b)

7. In case of the powdery mildew of peas the perennating part of the pathogen for next season's primary inocula is

- (a) Sporangia and Sporangiospores
- (b) Vegetative hyphae
- (c) Ascospores
- (d) Conidia

Ans. (c)

8. Dryopteris is

- (a) heterosporous leptosporangiate
- (b) heterosporous eusporangiate
- (c) homosporous leptosporangiate
- (d) homosporous eusporangiate

Ans. (d)

9. Examples of a positively and a negatively charged amino acids are

- (a) Lysine and Arginine respectively
- (b) Glycine and Serine respectively
- (c) Tyrosine and Aspartate respectively
- (d) Arginine and Glutamate respectively

Ans. (d)

10. Which of the following fraction/component of prokaryotic ribosome has catalytic property?

- (a) 5S rRNA
- (b) 5.8S rRNA
- (c) 23S rRNA
- (d) 28S rRNA

Ans. (c)

11. The non-histone proteins which hold the sister chromatid pairs of chromosomes during metaphase are

- (a) Cohesins
- (b) Condensins
- (c) Topoisomerases
- (d) Nucleoplasmin

Ans. (a)

12. An ion constituent of Oxygen Evolution Centre of Light reaction of photosynthesis is

- (a) Mn^{2+}
- (b) Mg^{2+}
- (c) Fe^{2+}
- (d) Cu^{2+}

Ans. (a)

13. The number of ATP molecules required for biological fixation of a single N_2 molecule is

- (a) 1
- (b) 4
- (c) 8
- (d) 16

Ans.(d)

14. $NADPH + H^+$ is essential in animal cells for

- (a) $NADPH + H^+$ is not essential in animal cells but is essential in plant cells
- (b) Reductive biosynthesis
- (c) Glycolysis
- (d) Krebs cycle

Ans. (b)

15. Lysosomes contain biopolymer degrading enzymes but if they are released into the cytoplasm they cause little degradation of the cytoplasmic biopolymers like proteins, polysaccharides – this is because

- (a) Cytoplasmic pH ranges between 7.0 and 7.3
- (b) Cytoplasmic pH ranges between 8.0 and 8.3
- (c) Cytoplasmic pH ranges between 5.0 and 5.3
- (d) Lysosomal degrading enzymes become coated immediately after release into the cytoplasm

Ans. (a)

16. In Prokaryotic transcription the rate of RNA synthesis at $37^{\circ}C$ is approximately

- (a) 3000 nucleotides per minute
- (b) 2000 nucleotides per minute
- (c) 1000 nucleotides per minute
- (d) 100 nucleotides per minute

Ans. (c)

17. Which of the following is an MTOC (MicroTubule Organizing Center)

- (a) Ribosome
- (b) Lysosome
- (c) Centrosome
- (d) Chromosome

Ans. (c)

18. Which of the following statements about Eukaryotic mRNA processing is false?

- (a) The mRNA transcript must be exported from the nucleus
- (b) A lariat structure is formed during polyadenylation
- (c) A 5' cap and a poly(A) tail must be added
- (d) The introns are removed and exons are spliced together

Ans. (b)

19. For DNA isolation from E. coli which of the following is incorrect?

- (a) Proteins can be removed from the DNA by chemical extraction using phenol
- (b) By RNase treatment RNA is removed from the sample
- (c) For plant DNA extraction detergent is used to break apart plant cells
- (d) Lysozyme digests peptidoglycan in the bacterial cell wall

Ans. (c)

20. Which of the following is not necessary for gel electrophoresis to work?

- (a) Positively charged nucleic acids to migrate through the gel
- (b) Ethidium bromide to provide a means to visualize the DNA in the gel
- (c) Polyacrylamide or agarose to separate the DNA based on size
- (d) Known molecular weight standards

Ans. (a)

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