

Yashwantrao Chavan College of Science, Karad
B.Sc. – I
Paper II- Basics of Biotechnology II
Question Bank

Q 1) Answer the following questions choosing the correct alternatives given below them

- 1) A also called a colorimeter, is used to measure the concentration of a solute
A) Spectrophotometer B) microscope
C) Photometer D) filter
- 2) Oil immersion objective lens has an numerical aperture value is.....
A) 0.65 B) 0.85
C) 1.33 D) 1.00
- 3) are not the components of RNA
A) Thymine B) Adenine
C) Guanine D) cytosine
- 4) Fine adjustment knob and knob used for focusing the image
A) Course adjustment B) diaphragm
C) Stage D) objective lens
- 5) is the composition of the nucleotide
A) Sugar + phosphate B) Base + sugar
C) Base + phosphate D) Base + sugar + phosphate
- 6) Group of adjacent nucleotides are joined by.....
A) Phosphodiester bond B) peptide bond
C) Ionic bond D) covalent bond
- 7) is used to visualize live cells.
A) SEM B) TEM
C) Phase contrast microscope D) all of the above
- 8) The refractive index of air is
A) 0.50 B) 0.75
C) 1.00 D) 1.25
- 9) Uridine is present in RNA is
A) Nucleotides B) pyrimidine
C) Purine D) nucleoside
- 10) Lowest working distance is shown byin light compound microscope
A) 10X low power objective B) 10X ocular
C) high power objective D) oil immersion objective

- 11) Magnification power of an electron microscope is
- A) about 10,000X B) 15,000X
C) 50,000x D) more than 2,50,000x
- 12) Beer's law states that the intensity of light decreases with respect to
- A) Concentration B) distance
C) composition D) volume
- 13) Lambert's law states that the intensity of light decreases with respect to
- A) concentration B) distance
C) composition D) volume
- 14) The monomeric unit of nucleic acid are called
- A) Nucleotides B) nucleosides
C) pyrimidines D) purines
- 15)discovered nucleic acid
- A) Watson and Crick B) Griffith
C) Friedrich Miescher D) Walter Gilbert
- 16) Deoxyribose sugar is found in DNA
- A) True B) False
- 17) The primary structure of DNA and RNA proceeds in which direction
- A) 3'-----5' B) 5'-----3'
C) 4'-----6' D) 3'-----6'
- 18) Which of these is not a lipid.....
- A) Fats B) Oils
C) Proteins D) Waxes
- 19)is an example of derived lipids
- A) Terpenes B) Steroids
C) Carotenoids D) All of the above
- 20) The specific gravity of lipid is
- A) 1.5 B) 1.0
C) 0.8 D) 0.2

Q 2) Long Answer

- 1) Explain the Watson and crick model of DNA. Add a note on different forms of DNA
- 2) Explain the structure and function of different type of RNAs
- 3) Define lipids and classify them with suitable examples.
- 4) Explain colorimeter
- 5) Explain general principles of microscopy

Q 3) Short Answer

- 1) Working of colorimeter
- 2) Chemical and physical properties of lipid
- 3) Nucleosides
- 4) Nucleotides
- 5) Application of compound microscope
- 6) General principles of microscopy
- 7) Functions of lipids
- 8) Scanning Electron Microscope
- 9) mRNA
- 10) Chemical Composition of nucleic acid

B.Sc.CBCS(NEP-2020) (Part-I) (Semester -I) Examination, Oct-2022
BIOTECHNOLOGY (OPT/ VOC) (Paper II)
BASICS OF BIOTECHNOLOGY
Sub. Code – 88192

Day and Date – Monday, 13/02/2023
Time- 2.30 PM to 4.30 PM

Total marks- 40

Answer Key

- Q 1)** 1. A) Spectrophotometer
2. C) 1.33
3. A) Thymine
4. D) objective lens
5. D) Base + sugar + phosphate
6. A) Phosphodiester bond
7. C) Phase contrast microscope
8. C) 1.00

Q 2) Long Answer

1. Watson and crick model of DNA explanation - 3 marks
Explanation with diagram of different forms – 5 marks
2. Structure – 3 marks
Explanation – 2 marks
function of different type of RNAs - 3 marks
3. lipids - 2 marks
Classification – 2 marks
Explanation – 4 marks

Q 3) Short Answer

- 1) Working of colorimeter –
Diagram -2 marks
Working -2 marks
- 2) Chemical properties - 2 marks
physical properties - 2 marks
- 3) Nucleosides –
Definition -1 marks

Diagram – 1 marks

Explanation – 2 marks

4) Nucleotides

Definition -1 marks

Diagram – 1 marks

Explanation – 2 marks

5) Application of compound microscope – 4 marks

6) General principles of microscopy - 4 marks