

JAI HIND COLLEGE

(AUTONOMOUS)MUMBAI

Syllabus for Biotechnology Online Entrance Exam 2021

The Entrance exam will primarily check basic aptitude in Biology, Chemistry, Physics, Maths, Logic and Reasoning ability and English. Entrance test will consist of multiple-choice questions from the following five sections.

Section 1: Biology

- Human and Plant Physiology
- Living world and Biological Classification
- Biochemistry
- Genetics
- Environmental Biology
- Ecology
- Cell Cycle
- Human health and disease
- Microbiology
- Biotechnology

Section 2: Chemistry

- Organic Chemistry
- Inorganic Chemistry
- Physical Chemistry
- pH and Buffers
- Metals and Nonmetals
- Periodic Table
- Thermodynamics

Section 3: Physics and Maths

- Light and Optics
- Mechanics
- Electricity
- Laws of Motion
- Force and Gravity
- Radiation and Magnetism
- Basic Statistics
- Basic Algebra
- Geometry
- Trigonometry
- Ratio Proportions
- Probability
- Mensuration

Section 4: Logic and Reasoning

- Relationship
- Deductive Reasoning
- Cause and Effect
- Analogy
- Alphanumeric series
- Logical reasoning
- Time sums and directions

Section 5: English (Language and grammar)

- Synonyms and antonyms
- Idioms and Phrases
- Word substitutes
- Tenses
- Sentence correction
- Parts of speech

Following is the weightage per subject:

Subject	Weightage in %
Biology	40
Chemistry	20
Physics and Maths	20
Logic and Reasoning	10
English	10

Entrance Exam Sample Paper for BSc. Biotechnology

Section 1 Biology

1. is a protein found in the red blood cells that carries oxygen in your body and gives blood its red colour

- a. Haemoglobin
- b. Myoglobin
- c. Albumin
- d. Immunoglobulin

2. _____ is the site for the Electron Transport chain.

- a. Nucleus
- b. Mitochondria
- c. Vacuole
- d. Endoplasmic reticulum

3. _____ protein is found in hair and nails.

- a. Keratin
- b. Hemoglobin
- c. Starch
- d. Albumin

4. _____ is the male reproductive organ in flowering plants

- a. Pistil
- b. Stigma
- c. Stamen
- d. Style

5. Animals that produce live babies rather than laying eggs are called _____.

- a. Oviparous
- b. Omniparous
- c. Viviparous
- d. Aviparous

6. Deficiency of _____ causes diabetes insipidus.

- a. Oxytocin
- b. Insulin
- c. ADH
- d. ACTH

7. In mitotic division, one parent cell gives rise to

- a. Three daughter cells
- b. One daughter cell
- c. Two daughter cells
- d. Eight daughter cells

8. Jowar is an example of

- a. Dicotyledon
- b. Succulent plant
- c. Monocotyledon
- d. Gymnosperm

9. Scientific name of fruit fly is _____

- a. *Lumbricus terrestris*
- b. *Plasmodium vivax*
- c. *Musca domestica*
- d. *Drosophila melanogaster*

10. The biochemical nature of enzymes is _____

- a. Protein
- b. Lipid
- c. Carbohydrate
- d. Nucleic acid

Section 2 Chemistry

1. _____ is an example of an electrolyte solution.
- a. Salt
 - b. Sugar
 - c. Urea
 - d. Alcohol
2. **Select the example which is not a noble gas.**
- a. He
 - b. H
 - c. Zn
 - d. Ar
3. **In the modern periodic table, the second and the third periods are known as _____ periods.**
- a. Incomplete
 - b. Maximum
 - c. Long
 - d. Short
4. **The IUPAC name of acetone is**
- a. propan-2-one
 - b. propane-1-one
 - c. propan-3-one
 - d. propanol

5. Nylon threads are made up of _____ polymer.

- a. Polyester
- b. Polyamide
- c. Polyethylene
- d. Polyvinyl

Section 3 Physics and Maths

1. The unit of resistance is

- a. Ohm
- b. Volt
- c. Ampere
- d. Coulomb

2. Shorter the wavelength of light, _____ the energy.

- a. Lesser
- b. Higher
- c. Minimum
- d. Inferior

3. A cube has ----- faces and ----- edges

- a. 12,6
- b. 6,12

c. 6,6

d. 12,12

4. Mode refers to the

a. Most frequently occurring value

b. Middle most value

c. Least frequently occurring value

d. Average of all values

5. On tossing a coin once, the probability of getting head is

a. $\frac{1}{4}$

b. $\frac{1}{3}$

c. $\frac{1}{2}$

d. $\frac{1}{6}$

Section 4 Logic and Reasoning

1. Jane's mother has four children. Names of the three children are Spring, Summer and Autumn. What is the name of the fourth child?

a. Monsoon

b. Winter

c. Fall

d. Jane

2. A train left Mumbai Central at 17:55 and reached Andheri, halted at Andheri for 2 minutes and departed at 18:19. How many minutes the train took to reach Andheri from Mumbai Central?

- a. 22 minutes
- b. 20 minutes
- c. 24 minutes
- d. 19 minutes

3. The difference between the ages of Nita and Mohan is 6 years and the sum of their ages is 24 years. What is the age of Mohan?

- a. 15
- b. 12
- c. 20
- d. 09

4. At 3.00 pm in a clock, what is the angle between the 'minute hand and 'hour hand'

- a. Acute angle
- b. Obtuse angle
- c. Right angle
- d. Triangle

5. Some strawberries are fruits. All fruits are red.

Conclusion I: All strawberries are red. Conclusion II: All fruits are strawberries.

- a. Only conclusion I follow.
- b. Only conclusion II follows.

- c. Both conclusion I and II follows.
- d. Neither conclusion I nor II follow.

Section 5 English

1. We were going to University yesterday at this time. Identify the TENSE of the sentence.

- a. Past perfect tense
- b. Present tense
- c. Past continuous tense
- d. Present continuous tense

2. Choose the correct statement:

- a. The hooligans broke in the factory.
- b. The hooligans broke onto the factory.
- c. The hooligans broke at the factory.
- d. The hooligans broke into the factory.

3. The phrase “born with a silver spoon in one’s mouth” refers to:

- a. Having a metallic taste all the time
- b. Being born into a wealthy family
- c. Someone who always uses a spoon while eating
- d. Having lots of spoons in the house

4. Following is NOT a synonym of the word 'sterile'

- a. Barren
- b. Aseptic
- c. Fertile

d. Germ-free

5. Which one is not a preposition?

a. On

b. Off

c. Beneath

d. Neighbor
