

Biotechnology and its Applications

NEET previous year questions · Biology

6 questions from the official papers: NEET 2026 (2), Re-NEET 2026 (1), NEET 2020 (3). Each is followed by its answer and a worked solution written by BrainIt. Generated on 23 October 2026.



BrainIt

The NEET practice app that learns how you practise and tells you what to do next.

PYQs · Mock tests · Revision · Interactive 3D concepts · Analytics

Get it on
Google Play

Download on the
App Store



brainit.pro/app

1. NEET 2026 · Q152

The human protein named α -1-antitrypsin, obtained from transgenic animals, is used for the treatment of _____.

- (1) Emphysema (2) Alzheimer's disease
(3) Rheumatoid arthritis (4) Cystic fibrosis

Answer (1)

Sol. According to NCERT, α -1-antitrypsin produced from transgenic animals is used to treat emphysema, a lung disorder. Alzheimer's disease, rheumatoid arthritis and cystic fibrosis are conditions for which transgenic animal models are created for study, not treated by this protein.

2. NEET 2026 · Q172

The toxin proteins isolated from *Bacillus thuringiensis*, coded by which of the following genes would control cotton bollworms and corn borer, respectively?

- (1) *cryIAC* and *cryIAB* (2) *cryIAC* and *cryIIAB*
(3) *cryIIAB* and *cryIAC* (4) *cryIAC* and *cryIIIAB*

Answer (1)

Sol. The *cry* genes of *Bacillus thuringiensis* are insect-group specific. The proteins encoded by *cryIAC* (and *cryIIAB*) control cotton bollworms, whereas the protein encoded by *cryIAB* controls the corn borer. Since the question asks for cotton bollworm followed by corn borer, the correct gene pair is *cryIAC* and *cryIAB*.

3. Re-NEET 2026 · Q137

The inactive form of Bt toxin is converted to the active form in the insect gut _____

- (1) due to alkaline pH (2) due to acidic pH
(3) by proteases (4) by nucleases

Answer (1)

Sol. *Bacillus thuringiensis* produces the toxin as an inactive PROTOXIN crystal, which is why the bacterium itself is not harmed. Once eaten by an insect, the alkaline pH of the insect gut solubilises the crystal and converts it to the active form, which then binds to the midgut epithelium and creates pores that swell and lyse the cells. The pH dependence is what makes the toxin selective for insects. NCERT Class 12, Biotechnology and its Applications.

4. NEET 2020 · Q35

Bt cotton variety that was developed by the introduction of toxin gene of *Bacillus thuringiensis* (Bt) is resistant to

- (1) Fungal diseases (2) Plant nematodes
(3) Insect predators (4) Insect pests

Answer (4)

Sol. Bt cotton, developed by introducing the toxin gene from *Bacillus thuringiensis*, is resistant to insect pests. This gene produces a protein that is toxic to certain insects, making Bt cotton effective against insect pests. Chapter: Biotechnology and its Applications.

5. NEET 2020 · Q81

Match the following columns and select the correct option.

List I	List II
P) Bt cotton	I) Gene therapy
Q) Adenosine deaminase deficiency	II) Cellular defence
R) RNAi	III) Detection of HIV infection
S) PCR	IV) <i>Bacillus thuringiensis</i>

- (1) P-III, Q-II, R-I, S-IV (2) P-II, Q-III, R-IV, S-I
(3) P-I, Q-II, R-III, S-IV (4) P-IV, Q-I, R-II, S-III

Answer (4)

Sol. Bt cotton is linked to *Bacillus thuringiensis*, ADA deficiency to gene therapy, RNA interference to cellular defence and polymerase chain reaction (PCR) to human immunodeficiency virus (HIV) detection. Thus P-IV, Q-I, R-II, S-III. Chapter: Biotechnology and its Applications.

6. NEET 2020 · Q83

Which of the following statements is not correct?

- (1) The proinsulin has an extra peptide called C-peptide.
- (2) The functional insulin has A and B chains linked together by hydrogen bonds.
- (3) Genetically engineered insulin is produced in *E.Coli*.
- (4) In man insulin is synthesised as a proinsulin

Answer (2)

Sol. The functional insulin has A and B chains linked together by disulfide bonds, not hydrogen bonds. Chapter: Biotechnology and its Applications.

Questions: official NEET papers set by NTA. Solutions: BrainIt. BrainIt is independent and not affiliated with NTA. Online, with every chapter: brainit.pro/neet/biology/biotechnology-and-its-applications/pyq/

AFTER THIS PAPER

Turn this paper into a plan.

BrainIt is a NEET practice app. It learns how you practise and tells you what to do next.

- **PYQs**
Previous-year questions, each with an explanation.
- **Mock tests**
Full and mini mocks on the CBT exam screen.
- **Revision**
Your mistakes come back for review, with flashcards.
- **Interactive concepts**
Learn by exploring 3D models, like the human body and the heart.
- **Analytics**
See your accuracy, speed and where you lose marks.
- **A daily plan**
It picks what to study next, every day.

Get it on

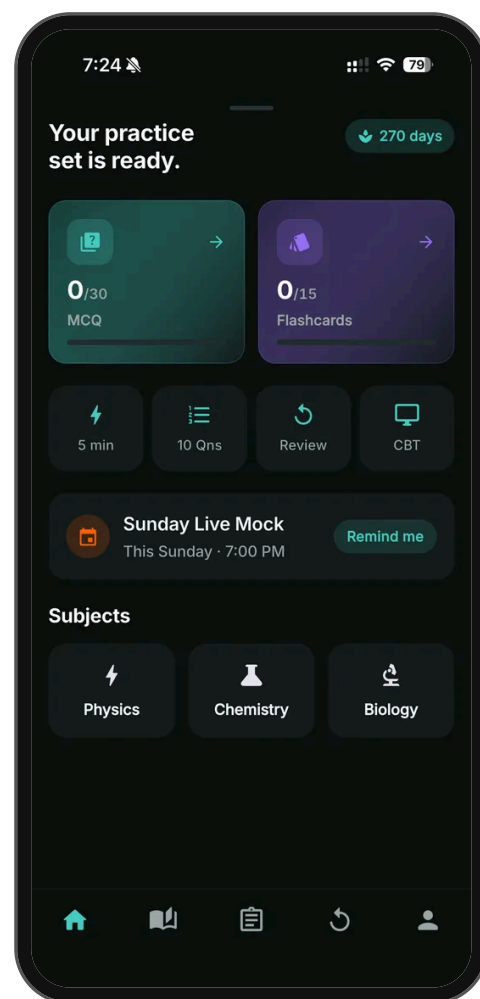
Google Play

Download on the

App Store



Scan with your phone camera,
or type **brainit.pro/app**



Take a free CBT mock

Real NEET questions on the exam screen, timed and marked for you.
No login.