NEET 2025 Botany Question Paper

Time Allowed :3 Hours	**Maximum Marks :**720	**Total Questions :**180

General Instructions

Read the following instructions very carefully and strictly follow them:

1. The test is of 3 hours duration.
2. The question paper consists of 180 questions. The maximum marks are 720.
3. There are four parts in the question paper consisting of Biology, Physics, Chemistry, and Mathematics.
4. 4 marks are awarded for each correct answer and 1 mark is deducted for each wrong answer.
5. No marks will be awarded or deducted for unanswered questions.
6. Candidates must use only blue or black ballpoint pens to fill the OMR sheet.
7. The question paper consists entirely of Multiple Choice Questions (MCQs).

91. Match List - I with List - II:

List - I	**List - II**
A. Progesterone	I. Pars intermedia
B. Relaxin	II. Ovary
C. Melanocyte stimulating hormone	III. Adrenal Medulla
D. Catecholamines	IV. Corpus luteum

(1) A-IV, B-II, C-III, D-I

(2) A-II, B-IV, C-I, D-III

(3) A-III, B-II, C-IV, D-I

(4) A-IV, B-II, C-I, D-III

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92. The blue and white selectable markers have been developed which differentiate recombinant colonies from non-recombinant colonies on the basis of their ability to produce color in the presence of a chromogenic substrate.

Given below are two statements about this method:

Statement I: The blue-colored colonies have DNA insert in the plasmid, and they are identified as recombinant colonies.

Statement II: The colonies without blue color have DNA insert in the plasmid, and are identified as recombinant colonies.

(1) Both Statement I and Statement II are incorrect.

(2) Statement I is correct but Statement II is incorrect.

(3) Statement I is incorrect but Statement II is correct.

(4) Both Statement I and Statement II are correct.

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93. Given below are two statements: One is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A): Cells of the tapetum possess dense cytoplasm and generally have more than one nucleus.

Reason (R): Presence of more than one nucleus in the tapetum increases the efficiency of

nourishing the developing microspore mother cells.

(1) Both A and R are true but R is NOT the correct explanation of A.

(2) A is true but R is false.

(3) A is false but R is true.

(4) Both A and R are true and R is the correct explanation of A.

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94. Match List I with List II.

List I	**List II**
A. Pteridophyte	I. *Salvia*
B. Bryophyte	II. *Ginkgo*
C. Angiosperm	III. *Polytrichum*
D. Gymnosperm	IV. *Salvinia*

(1) A-IV, B-III, C-I, D-II

(2) A-III, B-IV, C-II, D-I

(3) A-IV, B-III, C-II, D-I

(4) A-III, B-IV, C-I, D-II

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95. Match List - I with List - II:

List I	**List II**
A. Heart	I. Erythropoietin
B. Kidney	II. Aldosterone
C. Gastrointestinal Tract	III. Atrial natriuretic factor
D. Adrenal Cortex	IV. Secretin

(1) A-I, B-II, C-III, D-IV

(2) A-III, B-I, C-IV, D-II

(3) A-II, B-I, C-III, D-IV

(4) A-III, B-IV, C-I, D-II

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96. Who proposed that the genetic code for amino acids should be made up of three

nucleotides?

(1) Francis Crick

(2) Jacques Monod

(3) Franklin Stahl

(4) George Gamow

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97. Which of the following is the unit of productivity of an Ecosystem?

(1) KCal m^{-2}

(2) KCal m^{-2} yr^{-1}

(3) (KCal m^{-2}) yr^{-1}

(4) gm^{-2} yr^{-1}

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98. Which of the following is an example of a zygomorphic flower?

(1) *Datura*

(2) Pea

(3) Chilli

(4) *Petunia*

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99. Match List I with List II:

List I	**List II**
A. The Evil Quartet	I. Cryopreservation
B. Ex situ conservation	II. Alien species invasion
C. *Lantana camara*	III. Causes of biodiversity losses
D. Dodo	IV. Extinction

(1) A-III, B-I, C-II, D-IV

(2) A-III, B-II, C-I, D-IV

(3) A-III, B-II, C-IV, D-I

(4) A-III, B-II, C-I, D-IV

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100. Given below are two statements:

Statement I: In an ecosystem, there is unidirectional flow of energy of sun from producers to consumers.

Statement II: Ecosystems are exempted from the law of thermodynamics.

(1) Both Statement I and Statement II are incorrect.

(2) Statement I is correct but Statement II is incorrect.

(3) Statement I is incorrect but Statement II is correct.

(4) Both Statement I and Statement II are correct.

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101. The protein portion of an enzyme is called:

(1) Coenzyme

(2) Apoenzyme

(3) Prosthetic group

(4) Cofactor

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102. Twins are born to a family that lives next door to you. The twins are a boy and a girl. Which of the following must be true?

(1) They are fraternal twins.

(2) They were conceived through in vitro fertilization.

(3) They have 75% identical genetic content.

(4) They are monozygotic twins.

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103. After maturation, in primary lymphoid organs, the lymphocytes migrate for interaction with antigens to secondary lymphoid organ(s)/tissue(s) like:

A. thymus

B. bone marrow

C. spleen

D. lymph nodes

E. Peyer's patches

(1) A, B, C only

(2) E, A, B only

(3) C, D, E only

(4) B, C, D only

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104. In frog, the Renal portal system is a special venous connection that acts to link:

(1) Liver and kidney

(2) Kidney and intestine

(3) Kidney and lower part of body

(4) Liver and intestine

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105. Which of the following enzyme(s) are NOT essential for gene cloning?

A. Restriction enzymes

B. DNA ligase

C. DNA mutase

D. DNA recombinase

E. DNA polymerase

(1) A and B only

(2) D and E only

(3) B and C only

(4) C and D only

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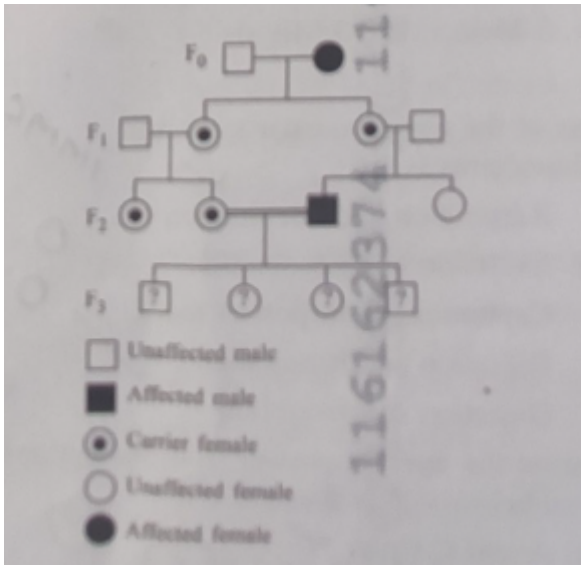
106. With the help of the given pedigree, find out the probability for the birth of a child having no disease and being a carrier (has the disease mutation in one allele of the gene) in the F_3 generation.



(1) 1/2

(2) 1/8

(3) Zero

(4) 1/4

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107. Which one of the following is the characteristic feature of gymnosperms?

(1) Seeds are naked.

(2) Seeds are absent.

(3) Gymnosperms have flowers for reproduction.

(4) Seeds are enclosed in fruits.

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108. The first menstruation is called:

(1) Menarche

(2) Diapause

(3) Ovulation

(4) Menopause

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109. In bryophytes, the gemmae help in which one of the following:

(1) Asexual reproduction

(2) Nutrient absorption

(3) Gaseous exchange

(4) Sexual reproduction

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110. How many meiotic and mitotic divisions need to occur for the development of a mature female gametophyte from the megaspore mother cell in an angiosperm plant?

(1) 1 Meiosis and 2 Mitosis

(2) 1 Meiosis and 3 Mitosis

(3) No Meiosis and 2 Mitosis

(4) 2 Meiosis and 3 Mitosis

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111. Role of the water vascular system in Echinoderms is:

A. Respiration and Locomotion

B. Excretion and Locomotion

C. Capture and transport of food

D. Digestion and Respiration

E. Digestion and Excretion

(1) A and C Only

(2) B and C Only

(3) B, D and E Only

(4) A and B Only

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112. Read the following statements on plant growth and development:

A. Parthenocarpy can be induced by auxins. B. Plant growth regulators can be involved in promotion as well as inhibition of growth. C. Dedifferentiation is a pre-requisite for re-differentiation. D. Abscisic acid is a plant growth promoter. E. Apical dominance promotes the growth of lateral buds. (1) A, C, E only

(2) A, D, E only

(3) B, D, E only

(4) A, B, C only

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113. Which of the following type of immunity is present at the time of birth and is a non-specific type of defence in the human body?

(1) Innate Immunity

(2) Cell-mediated Immunity

(3) Humoral Immunity

(4) Acquired Immunity

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114. Why can't insulin be given orally to diabetic patients?

(1) It will be digested in Gastro-Intestinal (GI) tract.

(2) Because of structural variation.

(3) Its bioavailability will be increased.

(4) Human body will elicit strong immune response.

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115. Which one of the following equations represents the Verhulst-Pearl Logistic Growth of population?

(1) $dN/dt = rN(K-N)/K$

(2) $dN/dt = rN(N-K)/K$

(3) $dN/dt = rN(K+N)/K$

(4) $dN/dt = rN(K-N)/N$

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116. Silencing of specific mRNA is possible via RNAi because of:

(1) Inhibitory ssRNA

(2) Complementary dsRNA

(3) Non-complementary ssRNA

(4) Complementary dsRNA

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117. Match List I with List II.

List I	**List II**
A. Adenosine	I. Nitrogen base
B. Adenylic acid	II. Nucleotide

C. Adenine III. Nucleoside

D. Alanine IV. Amino acid

(1) A-III, B-II, C-IV, D-I

(2) A-III, B-II, C-I, D-IV

(3) A-II, B-III, C-I, D-IV

(4) A-III, B-IV, C-II, D-I

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118. Frogs respire in water by skin and buccal cavity and on land by skin, buccal cavity and lungs.

(1) The statement is true for both the environment.

(2) The statement is false for water but true for land.

(3) The statement is false for both the environment.

(4) The statement is true for water but false for land.

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119. All living members of the class Cyclostomata are:

(1) Endoparasite

(2) Symbiotic

(3) Ectoparasite

(4) Free living

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120. Identify the statement that is NOT correct.

(1) The heavy and light chains are held together by disulfide bonds.

(2) Antigen binding site is located at C-terminal region of antibody molecules.

(3) Constant regions of heavy and light chains are located at C-terminus of antibody molecules.

(4) Each antibody has two light and two heavy chains.

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121. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A): The primary function of the Golgi apparatus is to package the materials made by the endoplasmic reticulum and deliver it to intracellular targets and outside the cell.
Reason (R): Vesicles containing materials made by the endoplasmic reticulum fuse with the cis face of the Golgi apparatus, and they are modified and released from the trans face of the Golgi apparatus.

(1) Both A and R are true but R is not the correct explanation of A.

(2) A is true but R is false.

(3) A is false but R is true.

(4) Both A and R are true and R is the correct explanation of A.

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122. Consider the following:

A. The reductive division for human female gametogenesis starts earlier than that of male gametogenesis.

B. The gap between the first meiotic division and the second meiotic division is much shorter for males compared to females.

C. The first polar body is associated with the formation of the primary oocyte.

D. Luteinizing Hormone (LH) surge leads to disintegration of the endometrium and onset of menstrual bleeding.

(1) A and C are true

(2) B and D are true

(3) B and C are true

(4) A and B are true

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123. Match List I with List II:

List I	**List II**
A. Scutellum	I. Persistent nucellus
B. Non-albuminous seed	II. Cotyledon of Monocot seed
C. Epiblast	III. Groundnut
D. Perisperm	IV. Rudimentary cotyledon

(1) A-IV, B-III, C-II, D-I

(2) A-IV, B-III, C-I, D-II

(3) A-II, B-IV, C-III, D-I

(4) A-II, B-III, C-IV, D-I

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124. What is the main function of the spindle fibers during mitosis? (1) To synthesize new DNA

(2) To repair damaged DNA

(3) To regulate cell growth

(4) To separate the chromosomes

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125. Which of the following statements about RuBisCO is true? (1) It has higher affinity for oxygen than carbon dioxide.

(2) It is an enzyme involved in the photolysis of water.

(3) It catalyzes the carboxylation of RuBP.

(4) It is active only in the dark.

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126. Given below are two statements:

Statement I: The DNA fragments extracted from gel electrophoresis can be used in the construction of recombinant DNA.

Statement II: Smaller size DNA fragments are observed near the anode while larger fragments are found near the wells in an agarose gel.

(1) Both statement I and statement II are incorrect.

(2) Statement I is correct but statement II is incorrect.

(3) Statement I is incorrect but statement II is correct.

(4) Both statement I and statement II are correct.

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127. Which factor is important for termination of transcription?

(1) σ (sigma)

(2) ρ (rho)

(3) γ (gamma)

(4) α (alpha)

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128. Consider the following statements regarding the function of adrenal medullary hormones:

A. It causes pupillary constriction.

B. It is a hyperglycemic hormone.

C. It causes piloerection.

D. It increases the strength of heart contraction.

(1) B, C and D Only

(2) A, C and D Only

(3) D Only

(4) C and D Only

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129. Histones are enriched with:

(1) Leucine & Lysine

(2) Phenylalanine & Leucine

(3) Phenylalanine & Arginine

(4) Lysine & Arginine

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130. Genes R and Y follow independent assortment. If RRYY produce round yellow seeds and rryy produce wrinkled green seeds, what will be the phenotypic ratio of the F2 generation?

(1) Phenotypic ratio – 3:1

(2) Phenotypic ratio – 9:3:3:1

(3) Phenotypic ratio – 9:7

(4) Phenotypic ratio – 1:2:1

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131. Which of the following hormones released from the pituitary is actually synthesized in the hypothalamus?

(1) Anti-diuretic hormone (ADH)

(2) Follicle-stimulating hormone (FSH)

(3) Adrenocorticotrophic hormone (ACTH)

(4) Luteinizing hormone (LH)

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132. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A): All vertebrates are chordates but all chordates are not vertebrates.

Reason (R): The members of subphylum Vertebrata possess a notochord during the embryonic period; the notochord is replaced by a cartilaginous or bony vertebral column in adults.

(1) Both A and R are true but R is not the correct explanation of A.

(2) A is true but R is false.

(3) A is false but R is true.

(4) Both A and R are true and R is the correct explanation of A.

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133. Given below are two statements:

Statement I: Fig fruit is a non-vegetarian fruit as it has enclosed fig wasps in it.

Statement II: Fig wasp and fig tree exhibit a mutual relationship as the fig wasp completes its life cycle in the fig fruit and the fig fruit gets pollinated by the fig wasp.

(1) Both statement I and statement II are incorrect.

(2) Statement I is correct but statement II is incorrect.

(3) Statement I is incorrect but statement II is correct.

(4) Both statement I and statement II are correct.

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134. Sweet potato and potato represent a certain type of evolution. Select the correct combination of terms to explain the evolution.

(1) Homology, divergent

(2) Homology, convergent

(3) Analogy, divergent

(4) Analogy, convergent

135. Which of the following microbes is NOT involved in the preparation of household products?

A. *Aspergillus niger*

B. *Lactobacillus*

C. *Trichoderma polysporum*

D. *Saccharomyces cerevisiae*

E. *Propionibacterium sharmanii*

(1) A and C only

(2) C and D only

(3) C and E only

(4) A and B only