

SAMPLE QUESTION PAPER

INSTITUTE NAME & LOGO

MHT-CET – EXAM YEAR

Bio : Full Portion Paper

Question Booklet Version	Roll No.	Question Booklet Sr. No.							
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	Answer Sheet No.								
(Write this number on your Answer Sheet)	<table border="1"><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>								(Write this number on your Answer Sheet)

Duration: 90 Minutes

Total Marks: 100

This is to certify that, the entries of MHT-CET Roll No. and Answer Sheet No. have been correctly written and verified.

Candidate's Signature

Invigilator's Signature

Instructions To Candidate

1. This question booklet contains 100 Objective Type Ques. in the subject of Biology(100).
2. The question papers and OMR (Optical Mark Reader) Answer Sheets are issued separately at the start of the examination
3. Choice and sequence for attempting questions will be as per the convenience of the candidate
4. Candidate should carefully read the instructions printed on the Question Booklet and Answer Sheet and make the correct entries on the Answer Sheet. As Answer Sheets are designed to suit the OPTICAL MARK READER (OMR) SYSTEM, special care should be taken to mark the entries correctly. Special care should be taken to fill QUESTION BOOKLET VERSION, SERIAL No. and MHT-CET Roll No. accurately. The correctness of entries has to be cross-checked by the invigilators. The candidate must sign on the Answer Sheet and Question Booklet
5. Read each question carefully.
6. Determine the correct answer from out of the four available options given for each question.
7. Fill the appropriate circle completely like this ●, for answering a particular question. Mark with Black ink ball point pen only.
8. Each answer with correct response shall be awarded one (1) mark for Biology. **There is no Negative Marking. No mark shall be awarded for marking two or more answers of same question, scratching or overwriting.**
9. **Use of whitener or any other material to erase/hide the circle once filled is not permitted.**
10. Avoid overwriting and/or striking of answer once marked.
11. Rough work should be done only on the blank space provided on the Question Booklet. Rough work should not be done on the Answer Sheet.
12. The required mathematical tables (Log etc.) will be provided along with the question booklet.
13. Immediately after the prescribed examination time is over, the Question Booklet and Answer sheet is to be returned to the invigilator. Confirm that both the candidate and invigilator have signed on question booklet and Answer sheet.
14. No candidate is allowed to leave the examination hall till the Paper gets over.

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101) Mendel's work was rediscovered in 1900 by

- A) Avery, McCleod and McCarty
- B) Sutton, Punnet and Bridges
- C) Bateson, Punnet and Bridges
- D) De Vries, Correns and Tschermak

102) Caterpillar is a

- A) Third phase of life cycle of silk moth
- B) First phase of life cycle of silk moth
- C) Second phase of life cycle of silk moth
- D) Fourth phase of life cycle of silk moth

103) The central sulcus of the cerebral hemisphere has motor area and sensory area

- A) in the front
- B) behind and in front respectively
- C) in its front and behind respectively
- D) both behind the central sulcus

104) Which one is not a factor of the abiotic environment?

- A) Water
- B) Sunlight
- C) Decomposers
- D) Temperature

105) Number of codons in the genetic triplet code is

- A) 4
- B) 64
- C) 32
- D) 16

106) Lymph nodes work as

- A) Regulators
- B) Activators
- C) Filters
- D) Pumps

107) Photosynthesis will proceed upto the limit of

- A) light
- B) temperature
- C) wind
- D) moisture

108) Plant diseases cause a loss of in crop yield

- A) 60-70%
- B) 30-40%
- C) 5-30%
- D) 1-2%

109) The functional segment of DNA is called

- A) Cistron
- B) Nucleotide
- C) Recon
- D) Muton

110) The dorsal root of spinal cord contains

- A) visceral sensory fibres
- B) visceral motor fibres
- C) somatic sensory fibres
- D) somatic motor fibres

111) Dihybrid is

- A) heterozygous for one trait
- B) heterozygous for four traits
- C) heterozygous for two traits
- D) heterozygous for three traits

112) In Bright's disease ____ part of the kidney is affected.

- A) Cortex
- B) Renal tubule
- C) Glomeruli
- D) Medulla

113) Which one of the following substances is completely reabsorbed from the filtrate in the renal tubule under normal condition?

- A) Uric acid
- B) Glucose
- C) Salts
- D) Water and urea

114) Which of the following is not a characteristic of Turner's syndrome?

- A) Normal menstrual cycle is present
- B) Individual is phenotypically female
- C) Chest is broad with underdeveloped breasts
- D) Barr body is absent

115) Nobel Prize for one gene one enzyme hypothesis was given to

- A) Sutton and Boveri
- B) Watson and Crick
- C) Avery et al.
- D) Beadle and Tatum

116) Number of carboxylation in C₄ cycle is/are

- A) 5
- B) 3
- C) 2
- D) 1

117) Marriage between Rh -ve woman and Rh +ve man causes

- A) HDN
- B) NHD
- C) NDH
- D) DHN

118) Antibody formation is stimulated by antigen this is called as

- A) immunity
- B) autogenicity
- C) auto immunity
- D) passive immunity

119) Progesterone secretion by corpus luteum of the ovary is under the control of

- A) Oxytocin
- B) Vasopressin
- C) Gonadotropins
- D) Luteinising hormone

120) Human blood clotting factor VIII is used to treat

- A) Hemophilia
- B) Thalassemia
- C) Colour blindness
- D) Sickle cell anaemia

121) Bt- cotton is not

- A) GM plant
- B) Insect resistant
- C) Resistant to all pesticides
- D) A bacterial gene expression system

122) Which of the following natural boundaries is used for giving protection to fauna only?

- A) National park B) Sanctuary
- C) Biosphere reserve D) Botanical garden

123) Where does activated nucleotides occur in process of DNA replication?

- A) Cytoplasm B) Mitochondria
- C) Protoplasm D) Nucleoplasm

124) The parasite which completely depends on host is called

- A) Ectoparasite B) Holoparasite
- C) Endoparasite D) Obligate parasite

125) Maize stem borers do not cause damage to maize plants with

- A) Low aspartic acid, high nitrogen and high sugar content.
- B) Low aspartic acid, low nitrogen and low sugar content
- C) Low aspartic acid, low nitrogen and high sugar content
- D) High aspartic acid, low nitrogen and low sugar content.

126) Father of DNA fingerprinting is

- A) Lalji Singh B) Alec Jeffrey
- C) Khorana D) R.N. Singh

127) Mesozoic era often called as

- A) Golden age of reptiles
- B) Era of mammals
- C) Rise of first primates
- D) Golden age of birds

128) In bean seed, the food is stored in

- A) perisperm B) endosperm
- C) nucellus D) cotyledons

129) In entomophily, insects visit flowers for

- A) calyx B) nectar
- C) corolla D) colour

130) About 70% of the world's live-stock population is present in

- A) India and china B) Holland and America
- C) India and Pakistan D) Norway and Africa

131) A compound having very important role in prebiotic evolution was

- A) CH₄ B) NO
- C) SO₂ D) SO₃

132) The structural and physiological unit of vertebrate kidney is

- A) ureter B) seminiferous tubule
- C) nephridium D) uriniferous tubule

133) Phenomenon of phenotypic superiority of hybrid over either of its parents is known as

- A) Heterosis
- B) Pseudo-dominance
- C) Dominance
- D) Inbreeding depression

134) Which of the following is not a transgenic animal?

- A) Dolly B) Rosie
- C) Molly D) Polly

135) DNA with higher % of C-G pairs are heated in heat denaturation step of PCR at ____.

- A) 72°C B) more than 91°C
- C) 55°C D) 91°C

136) Blood group with AB group people can donate ____ blood group people.

- A) A B) B
- C) AB D) O

137) Who proposed the concept of ecological pyramid?

- A) Elton B) Odum
- C) Elements D) Tansley

138) In grafting, what is a stock?

- A) plant rooted in the soil
- B) plant with a primary meristem
- C) part of the other plant inserted on the rooted plant
- D) plant rooted in the soil on which the part of the other plant is inserted

139) Theory of Natural selection was proposed by

- A) Lamarck B) Wallace
- C) Charles Darwin D) Hugo- de- varies

140) Which of the following characters is dominant?

- A) Red flowers B) Wrinkled seeds
- C) Green seeds D) Constricted pods

141) Mimicry is a

- A) Protective adaptation
- B) Echolocation adaption
- C) Camouflage type of adaptation
- D) Migration

142) Diploid plant can be made polyploidy with the help of

- A) TTC B) GA
- C) IAA D) colchicine

143) Main excretory product of birds is

- A) Urea B) Ammonia
- C) Uric acid D) Guanine

144) _____ is not an abiotic component of an ecosystem.

- A) Proteins B) Nutrients
- C) Climate D) Chemosynthetic bacteria

145) The new desired variety of economically useful crop is raised by

- A) Mutation B) Vernalization
- C) Natural selection D) Hybridization

146) Genetic difference in the people is due to

- A) RFLPs B) Phenotype
- C) SNPS D) Exon

147) The term genetics was first coined by

- A) Mendel
- B) Bateson
- C) Correns
- D) Morgan

148) Mating of superior male of one breed with superior female of another breed is called

- A) Hybridization
- B) Interbreeding
- C) Out crossing
- D) Cross breeding

149) Chlorophyll is present

- A) in the grana of chloroplast
- B) on the surface of chloroplast
- C) in the stroma of chloroplast
- D) dispersed throughout the chloroplast

150) An anticoagulant present in plasma of human blood is

- A) Hirudin
- B) Fibrinogen
- C) Heparin
- D) Thrombin

151) Young birds need vaccination because -

- A) Make them healthy
- B) To stimulate fast growth
- C) To avoid epidemic condition
- D) To develop immunity against common fowl diseases

152) A DNA molecule is having 1360\AA length. If this DNA molecule undergoes replication in medium having N^{15} . After three generations, DNA molecule will have how many nucleotides with heavy N^{15} ?

- A) 800
- B) 4800
- C) 6400
- D) 5600

153) The factor which most affect the birth rate of human population is

- A) Age of parents
- B) Socio-economic factors
- C) Biological factor
- D) Carrying capacity

154) Which one of the following evolved during Pliocene epoch?

- A) Birds
- B) Man
- C) Insects
- D) Fishes

155) The gaseous fuel obtained by anaerobic fermentation of biomass is called

- A) Gasohol
- B) Alcohol
- C) Biogas
- D) Producer gas

156) Usually colour blindness refers to

- A) A person unable to identify red and yellow colours
- B) A person unable to identify red colour
- C) A person unable to identify red and green colours
- D) A person unable to identify any colour

157) The pattern of ecosystem in which density and distribution of species vary along a horizontal gradient is

- A) Zonation
- B) Succession
- C) Stratification
- D) Desertification

158) Kidneys plays role in

- A) maintenance of pH of body fluids
- B) to remove metabolic waste from the body
- C) remove waste
- D) maintenance of homoeostasis with environment

159) Particle gun method of used for introduction of DNA utilizes particles or beads

- A) DNA molecules coated with gold
- B) DNA molecules coated with tungsten
- C) 10-20 mm tungsten or gold particle
- D) 1-2 mm tungsten or gold particle coated with DNA

160) In PCR, short primers are added to single-stranded DNA molecules in a test tube and the appropriate enzymes are included to make a copy of the DNA. Which of the following primers is needed for copying the single-stranded DNA sequence 5' TACGGTAGGTC?

- A) 5' TACGG
- B) 5' GGCAT
- C) 5'ATGCC
- D) 5' GACCT

161) Enzyme that changed glucose to ethyl alcohol is

- A) Invertase
- B) Maltase
- C) Zymase
- D) Diastase

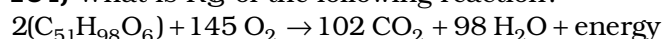
162) The species of honey bee used world wide for apiculture is

- A) A. Indica
- B) A. dorsata
- C) A. mellifera
- D) A. florea

163) In cellular respiration, oxygen is used as the final receptor of

- A) iron
- B) hydrogen
- C) carbon
- D) nitrogen

164) What is RQ of the following reaction?



- A) 1.0
- B) 1.45
- C) 0.7
- D) 1.62

165) Which of the following structure surrounds the urethra in man?

- A) Corpus albicans
- B) Corpus cavernosum
- C) Corpus cardiacum
- D) Corpus spongiosum

166) Respiration is an

- A) anabolic process
- B) endothermic process
- C) exergonic process
- D) endergonic process

167) _____ type of chromosome appears to show only one arm.

- A) metacentric
- B) acrocentric
- C) telocentric
- D) submetacentric

168) _____ is not an example of Bt crop.

- A) Rice
- B) Tomato
- C) Potato
- D) Wheat

169) The specific function of light energy in the process of photosynthesis is to

- A) activate carbohydrate
- B) activate chlorophyll
- C) activate chloroplast
- D) activate carotenoids

170) Ram is haemophilic but his wife is 100% normal. What is the chances of his son will inherit this disease?

- A) 0%
- B) 50%
- C) 25%
- D) 100%

171) Determination of sex of a child depends upon.

- A) Nature of sperm
- B) Age of mother
- C) Health of father
- D) Nature of egg

172) An indispensable role in energy metabolism is played by

- A) sulphate
- B) phosphate
- C) lithium
- D) calcium

173) Sympathetic and parasympathetic nervous systems are

- A) antagonistic
- B) complementary
- C) synergistic
- D) supplementary

174) At every heart beat ventricles pump _____ ml of blood.

- A) 80
- B) 70
- C) 60
- D) 50

175) Which genotype characterizes an organism that is heterozygous for two genes?

- A) RrYy
- B) RrYY
- C) RRYy
- D) RRyy

176) Choose the correct sequence in human reproduction.

- A) Gametogenesis → Copulation → Fertilization → Delivery of baby
- B) Copulation → Pregnancy → Delivery of baby
- C) Gametogenesis → Copulation → Fertilization → Embryogenesis → Parturition and Milk Secretion
- D) Gametogenesis → Copulation → Fertilization → Embryogenesis → Delivery of baby

177) Bartholin's glands are associated with

- A) brain
- B) testes
- C) vagina
- D) kidneys

178) Amoebiasis is caused through the _____ of causative organism

- A) spores
- B) cyst
- C) hairs
- D) saliva

179) Which of the following pair of hormones is synergistic in their action?

- A) ADH : oxytocin
- B) STH : thyroxine
- C) FSH : oestrogen
- D) Thyrocalcitonin : parathormone

180) The atom within each cytochrome molecule that actually accepts and releases electrons is

- A) zinc
- B) carbon
- C) iron
- D) oxygen

181) Main role of chlorophyll in photosynthesis is

- A) dark assimilation
- B) photochemical conversion
- C) photolysis of water
- D) to absorb light

182) Grains of major cereals and millets lack amino acids-

- A) Methionine and lysine
- B) Lysine and tryptophan
- C) Methionine and cysteine
- D) Tryptophan and cysteine

183) One of the following is connective tissue.

- A) Blood
- B) Lymph
- C) Plasma
- D) Tendon

184) Geological time scale consist of how many era?

- A) Four
- B) Five
- C) Three
- D) Six

185) Which part of some basidiomycetean fungi is edible?

- A) rhizoids
- B) fleshy thallus
- C) fruit
- D) fleshy fruiting body

186) Which one of the following is fresh water fish?

- A) Sardine
- B) Pomfret
- C) Rohu
- D) Mackerel

187) Enzyme enolase catalyses the conversion of 2 PGA to phosphoenol pyruvic acid in presence of _____ which is the co-factor.

- A) Mn^{++}
- B) Zn^{++}
- C) Fe^{++}
- D) Mg^{++}

188) Differentiation of colour is the property of the cones; it is because of the

- A) types of cones sensory to different colours only
- B) different types of cones along with the different types of colour sensory centres in the brain
- C) the colour differentiation is entirely a property of the colour sensory centre in the brain
- D) single type of cones but it has the properties to differentiate the colour

189) Systemic circulation means

- A) supply of blood to kidneys
- B) supply of blood to heart from all organs
- C) collection of blood for all parts of the body
- D) supply and collection of blood from all parts of the body except the lungs

190) Diagnostic test for typhoid is

- A) ELISA
- B) widal
- C) western blot
- D) blood count

191) The waste water having high amount of organics waste has high BOD because the microbes require

- A) Less oxygen to decompose them
- B) More CO₂ to decompose them
- C) No oxygen to decompose them
- D) More oxygen to decompose them

192) In which of these, the cranial cavity was smallest?

- A) Neanderthal
- B) Peking man
- C) Cro-Magnon
- D) Java - ape - man

193) What happened when heat killed S-strain bacterial cells were injected into mice?

- A) mice died and showed live R cells
- B) mice survived and showed live S-cells
- C) mice survived and showed dead S-cells
- D) mice died and showed dead S-cells

194) Breast and cervix cancers is _____ type

- A) carcinomas
- B) tumor
- C) sarcomas
- D) lymphoma

195) Which of the following statement is incorrect about double fertilization?

- A) First fertilization restores diploidy in life cycle
- B) It involves use of only one male gametes
- C) It avoids the chances of polyembryony
- D) It consists of two fusions and results in the formation of two products

196) When a natural predator is applied on the other pathogen organism to control them the process is called

- A) Artificial control
- B) Cultural control
- C) Biological control
- D) Genetic engineering

197) Anther is generally composed of

- A) 4 sporangium
- B) 3 sporangium
- C) 2 sporangium
- D) 1 sporangium

198) Sweat and sebaceous glands are _____ gland.

- A) Endocrine
- B) Subcutaneous
- C) Cutaneous
- D) Secretory

199) _____ disease affects our immune system

- A) hepatitis
- B) cancer
- C) AIDS
- D) typhoid

200) Which one of the following statements appropriately described modern biotechnology?

- A) modern biotechnology is helping all religions to grow
- B) modern biotechnology helps to make healthy food
- C) modern biotechnology focuses on higher production of agriculture
- D) modern biotechnology revolves around genetic engineering