EUEE Questions for Grade 12 (2005—2009E.C.)

Choose the best answer.

Unit – one.

Micro- organisms.

1. Which of the following rod- shaped bacteria?

A/ Cocci B/ Spirochetes C/ Spirilla D/ Bacilli.

2. An example of a disease caused by a virus is

A/ tuberculosis B/ tetanus C/ athlete's foot D/ common cold.

3. Which of the following is **no**t true of viruses?

A/ All viruses are obligate parasites B/ Each virus consists of nucleic acid surrounded by a protein coat

C/ viruses can multiply only in living cells D/ viruses can be cultured in a gar nutrient medium.

4. Which of the following is true of **HIV**? **HIV**

A/ Causes tuberculosis B/ attacks the heart and lungs

C/ causes pneumonia D/ destroys the immune system.

5. What are bacteriophages? A/ Bacteria B/ viruses C/ protozoa D/ Fungi.

6. The causative agent of the human disease called **sleeping sickness** belongs to the

group A/ bacteria B/ insects C/ viruses D/ protozoa.

7. Select the alternative that contains only **vector borne** infections.

A/ malaria, syphilis, cholera B/ Sleeping sickness, **AIDS**, ring worm

C/ common cold, flu, pneumonia D/ Malaria, sleeping sickness, yellow fever.

8. In which Ethiopian traditional food preparation is the action of microorganisms least

evident ? A/ Injera making B/ Kocho making

C/ kinche making D/ Irgo (yoghurt) making.

9. Which of the following is true about the meaning contained in the name **HIV** and **AIDS**?

A/ **HIV** refers to the symptoms that characterize the condition B/ **AIDS** refers to the causative agent

C/ **AIDS** refers to the symptoms D/ **HIV** refers to the way of transmission.

10. What is the cause of infectious diseases?

A/ The parental genes B/ Microorganisms

C/ carcinogenic substance D/ Bad life styles.

11. A number of viruses, including **HIV**, have more than one strain.

This shows that viruses are A/ capable of living outside their hosts B/ capable of mutation

C/ capable of reproduction D/ obligate parasites.

12. If an **HIV** patient takes a drug that inhibits the function of the viral reverse transcriptase enzyme, which of the following processes would be primarily affected?

A/ Entry of the virus in to the patient's cells B/ copying of DNA into RNA

C/ copying of RNA in to DNA D/ protein synthesis.

13. Which one of the following statements is correct about **HIV**?

A/ it is a bacteriophage B/ it is a retrovirus

C/ it is a DNA virus D/ it infects plants and animals alike.

14. Why are T- lymphocytes more vulnerable to **HIV** infection? Because they possess

A/ thin cell membrane B/ GP 120 on their surface

C/ **HIV** receptor protein D/ large pores in their cell membrane.

15. Choose the disease that is caused by what is known as the "droplet infection ".

A/ Flu B/ AIDS C/ Cholera D/ Malaria.

16. The bacterium that causes tuberculosis was discovered by

A/ Mendel B/ Lister C/ Pasteur D/ Koch.

17. Which of the following is the collective name for all bacteria with spherical shapes?

A/ Cocci B/ Bacilli C/ Spirochaetes D/ Streptococci.

18. In which kingdom of life are the unicellular eukaryotes grouped?

A/ Monera B/ Protista C/ Plantae D/ Animalia.

19. Select the function that living things are **NOT** capable of performing.

A/ Maintain their internal body environment B/ Pass genetic information to their offspring

C/ Respond to other organisms found in their surrounding

D/ Determine the amount of radiation reaching the environment.

20. In which part of the cell do **Gram – positive** and **Gram – negative** bacteria differ regarding their staining property with Gram's stain ?

A/ Cytoplasm B/ Cell membrane C/ Cell wall D/ Nucleus.

21. What are the individual strands of a fungal mycelium called?

A/ Fungus B/ Spores C/ Hyphae D/ Hydra.

22. What is the main mode of transmission of diseases such as cholera and typhoid fever?

A/ Sexual intercourse B/ Bites of animal vectors

C/ Blood – to- blood contact D/ Drinking contaminated water.

23. What are the most frequent causative agents of food poisoning?

A/ Bacteria B/ Protozoa C/ Viruses D/ Worms.

24. What is the important role played by microorganisms such as bacteria and fungi in the ecosystem?

A/ Antibiotic production B/ Recycling of nutrients

C/ Forming organic substances D/ Supplying energy to the ecosystem.

25. Which of the following human diseases can be prevented by taking proper diets?

A/ Degenerative diseases B/ Genetic diseases

C/ Social diseases D/ Deficiency diseases.

26. To which of the following groups do those bacteriophages that integrate their DNA into the chromosome of their bacterial host belong?

A/ Virulent viruses B/ Lytic viruses

C/ Lysogenic viruses D/ Non – parasitic viruses.

27. Which group of microorganisms causes the diseases known as athlete's foot?

A/ Bacteria B/ Fungi C/ Protozoa D/ Viruses.

28. Choose the one that is different from the all the others.

A/ Genetically modified organisms B/Genetically engineered organisms

C/ Pathogenic organisms D/ Transgenic organisms.

29. What is the advantage of using **HAART** (Highly Active Anti- Retroviral Therapy) for the treatment of **HIV**?

A/ it gives a lasting immunity to HIV B/ it prevents mutation of HIV

C/ it prevent re- infection by HIV D/ it helps to break the life cycle of HIV.

30. Which one of the following principles are most of anti- HIV drugs currently in use working ? A/ inhibition of enzyme action B/ degradation of viral RNA

C/ digesting of viral particles D/ phagocytosis of the virus.

31. If a new anti- HIV drug is to be developed to prevent the virus from entering the host cell, which one of the following processes should the drug target?

A/ Reverse transcription B/ Binding of Gp120 and CD4

C/ Integration of viral DNA into host DNA D/ Assembly of viral parts into a whole virus.

32. Choose the characteristics that viruses share with living things.

A/ they are made up of many specialized cells B/ they contain genetic material

C/ they reproduce by mitosis D/ they contain chlorophyll.

33. Which stage in the life cycle of **HIV** is inhibited by the antiretroviral drug known as integrase _ inhibitor? A/ Conversion of viral RNA to DNA B/ Replication of the viral genome

C/ Insertion of the viral genome into host genome D/ Release of the viral progeny from the cell.

34. From which organism is the first antibiotic used in medicine produced?

A/ Gram negative bacteria B/ Members of the fungi

C/ Genetically modified protozoa D/ Higher plants.

35. What color do gram _ positive bacteria stain with Gram's stain?

A/Red B/ Pink C/ Purple D/ White.

36. In which of the following ways do retroviruses differ from other RNA viruses?

A/ their genetic material is DNA B/ their genetic material is RNA

C/ they copy RNA to DNA molecule D/ they copy RNA from DNA molecule.

37. Which of the following groups of microorganisms does **not** contain parasitic members?

A/ Bacteria B/ Algae C/ Fungi D/ Protozoa.

38. What does a restriction enzyme do?

A/ restricts transcription B/ cuts DNA at specific sites

C/ prevents DNA from replicating D/ hydrolyses the DNA molecule.

39. Which one of the following shows the feeding method of decomposers?

A/ Saprobiotic nutrition B/ Autotrophic nutrition

C/ Parasitic nutrition D/ Intracellular digestion.

40. The T _ lymphocyte cells of **AIDS** patients are destroyed by:

A/ multiplication of HIV inside the cell B/ infection of opportunistic organisms

C/ the immune system of the host organism itself D/ the CD4 receptors on the cell surface.

41. Which stage in the life cycle of **HIV** is disrupted if **AIDS** patients are treated with a drug that has a protease inhibiting activity?

A/ entry of the virus into the host B/ conversion of viral RNA into DNA

C/ integration of viral DNA into host DNA D/ assembly of viral parts into whole virus.

42. Which of the following types of cancer is known to mostly develop in **AIDS** patients?

A/ Cervical cancer B/ Stomach cancer C/ Kaposi's sarcoma D/ Breast cancer.

43. From which of the following diseases can one be protected by sleeping under the cover of a mosquito net?

A/ Sleeping sickness B/ AIDS C/ Malaria D/ Athlete's foot.

44. Which of the following processes is most important to release nutrients from dead organic matter into the soil?

A/ Fixation B/Decomposition C/ Excretion D/ Respiration.

45.From among the following , choose the field which is a branch or a part of biotechnology.

A/Parasitology B/ Immunology C/ Phycology D/ Genetic engineering.

46. In which one of the following do we use genetically modified bacteria for the purposes other than human health? A/ Production of insulin B/ Production of antibiotics

C/ Production of herbicides D/ Production of vaccines.

UNIT _ TWO.

Ecology

47. Which of the following play an opposite role in recycling carbon between things and the environment?

A/ condensation and photosynthesis B/ Respiration and combustion

C/ Evaporation and condensation D/ photosynthesis and respiration.

48. The first colonizers of a bare land during succession of a community are

A/ trees B/ lichens C/ Shrubs D/ flowering plants.

49. An ecosystem will most likely remain stable if

A/ finite resources decrease B/ biotic factors decrease

C/ it has more predators than prey D/ it has a high level of biodiversity.

50. Which of the following include the abiotic factors in a forest ecosystem?

A/ Light, temperature and plants B/ Animals, water and soil

C/ Water, soil and temperature D/ minerals, oxygen and protests.

51. Which one of the following has a unidirectional flow in an ecosystem?

A/ Nitrogen B/Carbon dioxide C/ phosphorus D/ energy.

52. What is the collective name for plants that are well adapted to live in very dry environments?

A/ Epiphytes B/ xerophytes C/ Mesophytes D/ Hydrophytes.

53. In which biome of the world are lichens and mosses more common?

A/ Savanna B/ Desert C/ Tundra D/ Deciduous Forest.

54. Which of the following is more of a characteristic of an individual than of a population?

A/ phenotype B/ sex ratio C/ death rate D/age distribution.

55. In an ecosystem, between which of the following pairs is intraspecific competition expected to be strongest ? A/ producers versus herbivores B/ Herbivores versus carnivores

C/ predators versus decomposers D/ carnivores versus carnivores.

56. In which biome are ephemerals most typically found?

A/ savanna B/ Tropical rain forest C/ Taiga D/ Desert.

57. In Ethiopia, which of the following groups of the vertebrates is the most diverse in terms of species number? A/ mammals B/ Birds C/ Reptiles D/ Amphibians.

58. In the nitrogen cycle, the bacteria that give off nitrogen to the atmosphere are

A/ nitrogen – fixing bacteria B/ nitrifying bacteria

C/ denitrifying bacteria D/ ammonia forming bacteria.

59. Which ecological unit of the world is known to support the highest biological diversity?

A/ temperate forest B/ tropical rain forest C/ desert D/ oceans.

60. How do animals obtain nitrogen?

A/ by absorbing nitrates and ammonia from the soil B/ from the proteins in the organisms they consume

C/ by absorbing nitrogen gas from the atmosphere

D/through a mutualistic relationship with nitrogen – fixing bacteria.

61. All other factors remaining the same, which of the following decreases the size of a population? A/ Birth rate is greater than death rate B/ Emigration rate that is less than immigration rate

C/Immigration rate that is greater than death rate D/ Emigration rate that is greater than death rate.

62. Which of the following is expected to have a positive effect on the biodiversity of Ethiopia?

A/ Diverse ecology B/ Extensive faming

C/ over grazing by livestock D/ Logging and fuel wood removal.

63. How is it possible for different species to coexist in an ecosystem?

A/ each species has a specific biome of its own

B/ each species occupies a different niche with in the ecosystem

C/ there is no competition for resources among species in an ecosystem

D/ all resources are equally shared among species in an ecosystem.

64. What is the best term that refers to the maximum number of individuals that a

given environment can support over a long period of time with degradation ?

A/ Density B/ Climax community C/ Carrying capacity D/ Limiting factor.

65. In an ecosystem, the presence of which of the following groups is essential in order for the others to be

present ? A/ Autotrophs B/ Herbivores C/ Decomposers D/ Omnivores.

66. Nitrogen fixation means

A/ binding nitrogen firmly to the soil so that it is not leached from the soil

B/ breaking nitrates into gaseous nitrogen C/ removing nitrogenous compounds from the soil

D/ converting gaseous nitrogen into ammonium ions.

67. The final, most complex, community that a particular region can support is called the

A/ Climax B/ Pioneer C/ Permanent D/ Succession.

68. Which is the term that refers to all parts of the earth where living things are found?

A/ Population B/ Ecosystem C/ Biosphere D/ Environment.

69. Which one of the following is **NOT** one of the roles that microorganisms play in ecosystem?

A/ Nutrient recycling B/ Carbon fixation C/ Nitrogen fixation D/ Energy recycling.

70. Which one of the following demographic factors affects the number of human population globally?

A/ Natality B/ Migration C/ Emigration D/ Immigration.

71. Which one of the following is the main source of the greenhouse gases that are Concentrated in the atmosphere of the earth ?

A/ Burning of fossil fuels B/ Plants growing in greenhouses

C/ Photosynthesis by aquatic plants D/ Respiration by animals and plants.

72. What is the term for the process by which organisms keep their internal conditions at constant state?

A/ Catabolism B/ Evolution C/ Homeostasis D/ Photosynthesis.

73. When do populations of living organisms show exponential growth?

A/When the resources are plentiful B/whenever they enter a new environment

C/When they face strong competition from other species

D/When the carrying capacity of the environment is reached.

74. Which of the following terrestrial biomes experiences hot days and cold nights?

A/ Tundra B/ Tropical rain forest C/ Desert D/ Grasslands.

75. What could be the main reason behind the currently observed slow or stable rate of population growth in the industrialized countries ? A/ Good family planning B/ Increasing death rate

C/ Poor health conditions D/ High rate of child death.

76. Which alternative contains only crops known to have been domesticated within Ethiopia?

A/ *Guizotia abyssinica*, Zea *mays*, Pisum *sativum* B/ *Vicia faba, Carica papaya, Musa paradisiaca*

C/ *Oriza sativa, Triticum aestivum, Solanum tuberosum*

D/ *Coffea arabica, Eragrostis tef , Ensete ventricosulum.*

77. Which stage in primary ecological succession contains more biodiversity?

A/ The third seral stage B/ The second seral stage

C/ The climax community D/ The pioneer community.

78. The tropical rain forest largely found in South America and Africa can be best characterized by a combination of which environmental features ?

A/ Low rain fall and low temperature B/ High rain fall and high temperature

C/ Low rain fall and high temperature D/ High rain fall and low temperature.

79. Which component of soil fertility is improved when farmers grow legumes in crop rotation?

A/ Phosphorus B/ Nitrogen C/ Sulfur D/ Carbon.

80. In which one of the following aspects is the tropical rainforest biome poor?

A / Species diversity B/ Amount of sunlight C/ Annual precipitation D/ Soil fertility.

81. Which of the following is **NOT** usually true as an ecological succession progresses to advanced seral stages? A/ more ecological niches are formed B/ species become more diverse

C/ the depth of the soil increases D/ fewer populations are supported.

82. In which one of the four phases of population growth is the number of the population the highest?

A/Lag phase B/ Log phase C/ Constant phase D/ Decline phase.

83. If the age of pyramid of a certain country is narrowing at the base, what does this tell about the trend of the population size of the country? The population size is:

A/ declining B/ growing fast C/ increasing slowly D/ stabilizing.

84. Which of the following parts of plant roots is harbouring nitrogen fixing bacteria?

A/ Root nodule B/ Root hair C/Root tip D/ Root cap.

85. Which of the following forms of nitrogen is readily utilizable by green plants?

A/ Atmospheric nitrogen B/ Nitrite C/ Ammonium ion D/ Nitrate.

86. In which one of the following ways the Tundra biome differs from Desert biome?

A/ it is a treeless biome B/ it has little biodiversity

C/it receives little precipitation D/ it has permanently frozen subsoil.

87. Which of the following resources is needed by an ecosystem from outside in order to sustain itself?

A/ Producers B/ Macronutrients C/ Micronutrients D/ Sunlight.

88. In which of the following ways is the carbon dioxide of the atmosphere fixed into the carbon found in organic molecules? A/ in the breathing processes of all animals

B/ in the decomposition of organic molecules C/ in the process of photosynthesis by green plants

D/ in all the cellular respiration processes of organisms.

89. Among the following, which one has little or no contribution to the loss of biodiversity?

A/Overgrazing by domestic animals B/ Clearing forests to grow crops

C/ Growing crops of improved varieties D/ Growing crops of landraces.

90. Suppose sites A, B, C and D has Simpson's Index of Diversity (d) values of 20, 8, 16 and 3, respectively , which site is dominated by one or just a few species?

A/ Site A B/ Site B C/ Site C D/ Site D.

91. Which of the following is the largest ecological unit?

A/ A community B/ A biome C/ A population D/ An ecosystem.

92. What is the ecological succession in which plant communities establish after an area has been completely demolished by fire?

A/ Tree succession B/ Secondary succession C/ Primary succession D/ Bare rock succession.

93. What is the long term primary effect of the current tree planting activities that Ethiopia is undertaking?

A/ it will protect from harmful solar rays B/it will increase the global temperature

C/ it will reduce the atmospheric CO_2 D/ it will mend the holes in the ozone layer.

94. What happens when the carrying capacity of an ecosystem is reached?

A/ excretory product accumulates and population numbers increase

B/ population numbers decline rapidly

C/ population numbers remains more or less constant D/resources are plentiful and populations shoot up.

95. Which of the following is **NOT** a true characteristic of the population of most of the developing countries of the world?

A/ high fertility rate B/ increasing population size

C/ more number of old people than young people D/ birth rate greater than mortality rate.

96. What are the possible consequences of deforestation of the tropical rain forest?

A/ an increase in existing ecological niches B/ reduction in species diversity of an area

C/ increased removal of CO_2 from the atmosphere D/ an increase in the amount of nitrogen in the soil.

97. Which of the following terms refers to the movement of individuals out of a population?

A/ Mortality B/ Immigration C/ Emigration D/ Natality.

98. Which of the following processes involved in the water cycle is carried out by green plants?

A/Evaporation B Condensation C/ Precipitation D/ Transpiration.

99. In which biome are epiphytes typically present as characteristic elements?

A/Tropical montane forests B/ Cold desert woodlands

C/ The Tundra environment D/ Boreal deciduous forests.

100. What do we call the place where organisms live in their ecosystem?

A/ Abiotic B/ Biotic C/ Habitat D/ Niche.

101. Which of the following is a type of ecological succession that starts from a cleared forest area?

A/Hydrosere B/ Primary C/ Secondary D/ Pioneer.

102. Among the following, which one is held most responsible for the present fast depletion of the world biodiversity? A/ Green plants B/ Green algae C/ Blue green algae D/ Humans.

103. Which of the following demographic factors can increase the size of the world population?

A/ Natality B/ Migration C/ Emigration D/ Immigration.

104. The maximum population growth rate characteristic of a species is called _____ .

A/ limiting factor B/ biotic potential C/ carrying capacity D/ exponential growth pattern.

105. Biomes where trees predominate are called_____.

A/ Polar biomes B/ Desert biomes C/ Forest biomes D/ Grassland biomes.

106. The goals of biodiversity conservation include all of the following **EXCEPT** .

A/ protecting individual species B/ introducing exotic species into new environments

C/ preserving habitats and ecosystems D/ making sure local people benefit from conservation efforts.

107. What mode of feeding do soil organisms that release nutrients from dead organic matter into the soil have?

A/ photoautotrophic B/ saprophytic C/ chemoautotrophic D/ parasitic.

108. The total amount of living tissue within a given trophic level is called

A/ organic mass B energy mass C/ trophic mass D/ biomass.

109. Which of the following is the most **UNLIKELY** action that would be expected from Ethiopians who have been given adequate biological literacy?

A/ engagement in activities resulting in biodiversity loss

B/ supporting activities concerned with food security

C/ awareness about climate change and its problems

D/ engagement in biological resource conservation.

110. The main factors that determine the types of terrestrial biomes in a certain geographical area are:

A/ soil and vegetation formation B/ soil and biological diversity

C/ complexity in ecological succession D/ precipitation and temperature.

111. In which parts of Ethiopia are lions, elephants and giraffes found more commonly?

A/ in the Afroalpine and subafroalpine zones B/ in the highland areas of northern Ethiopia

C/ in the grasslands of southwester Ethiopia D/ in central and northern parts of the rift valley.

UNIT _ THREE.

Genetics.

112. Before making crosses, which part of the flower did Mendel remove to avoid self-pollination?

A/ Stigma B/ Ovule C/ Ovary D/ Stamen.

113. Which of the following is the correct F_2 phenotypic ratio of a monohybrid cross?

A/ 1: 2 B/ 1: 1 C/ 3: 1 D/ 2: 2.

114. One of the following is an important cause of gene mutation

A/ Old age B/ Alcoholic drinks C/ Smoking D/ Radiation.

115. How many chromosomes do human inherit from each of their parents?

A/ 23 chromosomes B/23 pairs of chromosomes C/ 46 chromosomes D/ 46 pairs chromosomes.

116. Which of the following is **NOT** true about the gene called **SRY**?

A/ it is found on the Y_ chromosome B/ it determines maleness

C/ testes develop in its presence D/ females have two copies of this gene.

117. The sheep '**dolly**' is an example of which biotechnological manipulation of animals by human?

A/ Transgenic animal B/ Genetically engineered animal C/ Cloned animal D/ Hybrid animal.

118. Which of the following crops is considered to be the best choice for a better balance of essential amino acids as a human diet? A/Maize B/Quinoa C/ Rice D/ Wheat.

119. In a cross between heterozygotes what proportion is expected to be homozygous recessive?

A/ 25% B/ 50% C/ 75% D/ 100%.

120. Gene silencing is the function of one of the following molecules.

A/ ds RNA B/ mRNA C/siRNA D/t RNA.

121. Which process is held responsible for chronic Myelogenous leukemia?

A/ Translocation B/ Translation C/ Transcription D/ Duplication.

122. Two parent of genotype Aa are cross_ bred. The alleles show complete dominance. What proportion of the offspring will phenotypically look like their parents?

A/ 0 B / ¼ C/ ½ D/ ¾.

123. In which of its contents RNA differs from DNA?

A/ Deoxyribose and guanine B/Ribose and uracil

C/ Ribose and thymine D/ Phosphate and adenine.

124. Among the following mating, where the ABO blood genotypes of the partners are shown, identify the mating in which all the children will have the same blood type.

A/ AO x BO B/ AA x OO C/AB x BO D/ BB x AO.

125. Suppose the amino acid coding region in a m RNA is 1200 nucleotides long, how long is the protein in terms of amino acid number?

A/1200 amino acids B/ 600 amino acids C/ 400 amino acids D/ 300 amino acids.

126. Which of the following is a recently developed active area of research in biology today?

A/ taxonomic study B/ study about the cell theory C/ ecological research D/ stem cell research.

127. Which one of the following choices shows the end products of a mitotic cell division?

A/ gametes and ordinary cells B/ four genetically different cells

C/ two genetically different cells D/ two genetically identical cells.

128. What exactly happens during a substitution mutation?

A/ one base is replaced by a different base B/ an extra base is added during DNA replication

C/ a base is missed out during DNA replication

D/ changes occur in the arrangement or structure of a chromosome.

129. Which molecule in the cell is the constituent of the gene?

A/ Nucleic acid B/ Protein C/ Lipid D/ Carbohydrate.

130. In a cross between round green pea of RRyy genotype and wrinkled yellow pea of rrYY genotype, what is the expected genotype of the F_1? A/ RRyy B/ rrYY C/RRYY D/RrYy.

131. In some crosses of maize, the progeny produces better yield than the parents. What is the phenomenon known as? A/ dominance B/ heterozygosity C/ hybrid vigour D/ inbreeding depression.

132. Which of the following techniques is used to separate DNA fragments according to their size on a gel?

A/ Southern blotting B/ Electrophoresis

C/ Radioactive labeling D/ Digestion by restriction enzyme.

133. Which of the following groups of animals have males with **ZZ** and females with **ZW** sex chromosome constitution? A/Grasshoppers B/ Birds C/ Mammals D/ Honey bees.

134. Which one of the following is the mechanism by which two genes located on the same chromosome are separated? A/ independent assortment B/ segregation C/ linkage D/ crossing over.

135. During protein synthesis, where in the cell does transcription take place?

A/ Ribosome B/ Nucleus C/ Endoplasmic reticulum D/ Golgi apparatus.

136. Which molecules carry the instruction for protein synthesis?

A/ Carbohydrates and lipids B/ Amino acids C/ DNA and RNA D/ Enzymes.

137. In protein synthesis, what is produced during transcription?

A/ Protein B/ m RNA C/ DNA D/ Polypeptide.

138. Which of the following pairs of individuals have identical DNA fingerprints?

A/ father and son B/ mother and daughter C/ brother and sister D/ monozygotic twins.

139. Which of the following types of chromosome mutations gives rise to an extra chromosome?

A/ Inversion B/ Translocation C/ Deletion D/ Non _ disjunction.

140. Which of the following mating produces children all having same ABO blood phenotypes?

A/AOxAB B/ BBxOO C/ AOxBO D/AAxBO.

141. If a DNA contains 10% thymine, what is the percentage of cytosine in the DNA?

A/10% B/30% C/ 40% D/ 90%.

142. Which of the following is true about mutation that occurs in normal body cells?

A/ they never lead to cancerous cells B/ they never pass to the next generation

C/ they never damage the affected cells D/ there is no way that kill the affected cells.

143. What is the process called when two bacteria directly contact cell to cell and exchange their genetic information? A/ Conjugation B/ Transformation C/ Co_ transformation D/ Transduction.

144. For what purpose do molecular biologists use the technology known as polymerase chain reaction or **PCR**? A/ to insert DNA into plasmids B/ to insert plasmids into bacteria

C/ to multiply copies of DNA molecule D/ to produce DNA from RNA.

145. Which element is found in nucleic acids?

A/Calcium B/Iron C/ Magnesium D/Phosphorus.

146. What do you call a group of genetically identical plants produced by vegetative reproduction?

A/Family B/ Clone C/Hybrid D/Genus.

147. When the F_1 hybrid of a monohybrid cross is back crossed with the homozygous recessive parent, what percentage of the offspring would be homozygous recessive?

A/0% B/25% C/50% D/ 75%.

148. Which two nitrogenous bases belong to the purines?

A/Adenine and thymine B/Adenine and guanine

C/ Guanine and cytosine D/ Thymine and uracil.

149. Which of the following is true?

A/ recessive alleles are only expressed in the homozygote

B/dominant alleles are expressed only in the heterozygote

C/ recessive alleles are expressed in the heterozygote

D/ genetically modified organisms are never used to manufacture vaccines.

150. Which of the following is the correct constitution of the sex chromosome of a normal woman?

A/XY B/XX C/ XO D/ XXY.

151. In cell division, what is the phase that comes following the metaphase called?

A/ Extraphase B/Prophase C/ Anaphase D/ Telophase.

152. Which of the following is true about gene mutation?

A/Altering the DNA sequence of a gene B/ Change in the position of a block of genes

C/Addition of genes to a chromosome D/ Loss of genes from a chromosome.

153. What is the circumstance that causes the health condition known as sickle _ cell anaemia?

A/ DNA denaturation B/ Haemoglobin mutation

C/ RNA mutation and decay D/ Phosphate mutagenesis.

154. Which one of the following terms refers to the failure of sister chromatids to separate from one another during anaphase?

A/ Non_ disjunction B/ Replication C/Deletion D/Double inversion.

155. Which of the following sequences represents the correct change in number of chromosomes during fertilization?

A/ n+ n → 2n B/ 2n → 2n C/ n → n D/ 2n → n+ n.

156. How many amino acids are there in all known proteins?

A/ About 10 B/ About 35 C/ About 20 D/ About 46.

157. Which of the following crosses will produce progeny with phenotypic ratio of 3:1?

A/ crossing the F_1 to the dominant parent B/ crossing two homozygote individuals

C/ crossing the F_1 to the recessive parent D/ crossing two heterozygote individuals.

158. If a codon on a messenger RNA is **UUU**, what is the complementary anticodon on the transfer RNA?

A/ **UUU** B/**GGG** C/ **CCC** D/**AAA**.

159. If a clone is produced by transferring a nucleus of animal **A** to an enucleated egg of animal **B** and the is then implanted in the uterus of animal **C**, which animal would the clone resemble most?

A/ Animal C B/ Animal B C/ Animal A D/ Other animals.

160. Which characteristic of **RNA** makes it suitable for moving out of the nucleus?

A/ inability to replicate B/ absence of thymine C/ its unstable nature D/ smallness of its size.

161. Which aspect of biotechnology is considered strictly genetic engineering?

A/ providing gene therapy B/ production of new types of plants

C/ monoclonal antibodies D/ mapping of the human genome.

162. Which of the following is the sex chromosome constitution of human males?

A/ XX B/ XY C/ ZZ D/ ZW.

163. What kind of cross is performed to determine whether the parent was homozygous or heterozygous?

A/ Monohybrid cross B/ Dihybrid cross C/ Back cross D/Double cross.

164. When Mendel crossed a tall pea plant with a short plant, the F1 progeny were all tall. What F1 did he obtain when he made the reciprocal cross?

A/ short plants B/ Tall plants C/ Extra- tall plants D/ Plants of average height.

165. If a heterozygous tall pea plant (Tt) is crossed with a short pea plant (tt), what percentage of the progeny is expected to be short? A/ 100% B/ 75% C/ 50% D/ 25%.

166. Which of the following methods do animal breeders use to produce domestic animals with hybrid vigor?

A/ Feeding with nutritive feed B/ Giving proper veterinary care

C/ Mating together related animals D/ Crossbreeding their animals.

167. Among the following **ABO** blood group genotypes, which one produces two types of antigens?

A/ I^AI^O B/ I^BI^O C/ I^AI^B D/ I^BI^B.

168. Which of the following is publicly an **UNDESIRED** research activity?

A/ Breeding a new crop variety B/ Synthesis of a new vaccine

C/ Manufacture of a new effective medicine D/ Breeding anew pathogenic microorganism.

169. Which of the plants with the following genotypes is heterozygous?

A/ BBYY B/ BbYy C/bbYY D/YYBB.

170. At which of the following generations of crosses between dominant and recessive homozygote parents are all the progeny heterozygous?

A/ P1 generation B/ F1 generation C/ F2 generation D/ F3 generation.

171. Mutation may be described as: A/ phenotypic change B/change in gene structure

C/ continuous variation D/ change due to hybridization.

172. When farmers are using fewer and fewer number of crop varieties, what would happen to the genetic diversity of our crop plants?

A/ It would get eroded B/ It would be more conserved

C/ It would be more diverse D/ Nothing would happen to it.

173. Which form of mutation is responsible for the disease known as leukemia?

A/ Duplication B/ Insertion C/ Inversion D/ Deletion.

UNIT_ FOUR.

EVOLUTION.

174. What are the most likely causes of variations within species?

A/ mitosis and asexual reproduction B/ overpopulation and overproduction

C/ vegetative propagation and cloning D/ mutation and sexual reproduction.

175. In which hominid species did scientists find the smallest brain size (cranial capacity)?

A/ Homo sapiens B/ Homo habilis C/ Homo erectus D/ Homo neanderthalensis.

176. When two species are compared, which of the following sources of evidence is least informative about the degree of relationships between the species?

A/ Nucleotide sequence of DNAs B/ Amino acid sequence of protein

C/ Glucose sequence of polysaccharides D/ DNA _ DNA hybridization.

177. Which of the following theories explains evolutionary changes of living things in terms of changes in their allele frequencies? A/ Darwin's natural selection B/ Spontaneous generation

C/ Inheritance of acquired characteristics D/ Neo _ Darwinism.

178. What is the reproductive isolating mechanism called if two species of Frogs do not interbreed because they cannot understand the mating calls of one another?

A/ Seasonal isolation B/ Behavioral isolation C/ Temporal isolation D/ Isolation by distance.

179. Among the following, which one is the best criterion to show that two population belong to the same species? A/ morphological similarity B/ Physiological similarity

C/ Inhabiting the same geographic are D/ Production of fertile offspring.

180. In the process of the evolution of life on earth, which of the following four processes evolved last?

A/ Photosynthesis B/ Aerobic respiration C/ Chemosynthesis D/ Photo_ auto tropism.

181. Which of the following characteristics can show the evolutionary relationships among organisms?

A/ structures having similar functions B/ structures having same size

C/ structures having common origin D/ structures having different origin.

182. If a new mutant allele arises in a certain population, which of the following factors determines if the allele is going to be adaptive or non-adaptive?

A/the environment in which the population lives C/the population in which the gene is found

B/ the rate at which the gene mutate D/ the use and disuse of the gene by the population.

183. Which one of the following factors is **NOT** important for evolutionary change of a population?

A/ Over reproduction B/Insufficiency of natural resources

C/ Existence of heritable variation D/ Survival of all that are born.

184. In some human liver cells there are 92 chromosomes per cell. What is the ploidy level of such cells?

A/ Haploid B/ Diploid C/ Tetraploid D/ Hexaploid.

185. In which geologic period does the fossil record show more diverse and relatively higher forms of organisms?

A/ Devonian B/ Cretaceous C/ Jurassic D/ Permian.

186. During the course of evolution, which of the following events came before all the others?

A/ origin of dinosaurs and other reptiles B/ availability of free oxygen in the atmosphere

C/ origin of the oldest eukaryotic organisms D/ origin of the first multicellular animals and plants.

187. What kind of natural selection is at work in a situation where individual at both extreme ends of the range get better survival advantages than those around the middle?

A/ Stabilizing selection B/ Directional selection

C/ Disruptive selection D/ Selection that removes the extremes.

188. According to Lamarck's theory of evolution, what in the mechanism by which evolving organisms acquire new structures? A/mutation B/ hereditary

C/ use_ and_ disuse of parts of the body D/ recombination of ancestral genes.

189. Which of the following can be taken as case for evidence of evolution from the field of plant and animal breeding?

A/ Artificial breeding always creates new species

B/ Artificial breeding only produces new organisms with higher yield

C/ Artificial breeding shows that natural selection can produce variations

D/Artificial breeding can produce new variations in organisms.

190. If a radioactive substance that weighs one kilogram has a half-life of 100 years, what would be the percentage of the substance left after 300 years?

A/50 B/30 C/ 25 D/ 12.5.

191. What do you call structures that have the same evolutionary origin but now are different in structure or have different functions?

A/ Endemic B/ Analogous C/ Homologous D/ Indigenous.

192. Which of the following is prevented from taking place if populations are separated by geographic barrier?

A/ Mutation B/ Evolution C/ Gene flow D/ Natural selection.

193. The half-life of carbon_ 14 is about 5730 years. If a fossil is 17200 years old, about what percent of its original carbon_ 14 is still present in the fossil?

A/ 75% B/ 50% C/ 25% D/ 12%.

194. Which of the following pairs are analogous structures?

A/ Wing of a bird and wing of butterfly B/ Front leg of a horse and a human arm

C/ Wing of a bird and a wing of a bat D/ Front leg of a frog and wing of a bat.

195. Among the following fossil hominid species, which one is the oldest of all?

A/ Homo erectus B/ Ardipithecus ramidus

C/ Australopithecus afarensis D/ Australopithecus africanus.

196. Which of the following did the early heterotrophs do that probably assisted the origin of autotrophs?

A/ they added oxygen and chlorophyll to the environment

B/ they added carbon dioxide to the environment

C/ they stored energy in the bonds of inorganic compounds

D/ they manufactured food from carbon dioxide and oxygen.

197. Which of the following conclusions can be drawn from the structural similarities observed between the flippers of whales and the arms of humans?

A/ the human species began life in the ocean

B/ the human species and whales share a common ancestry

C/ whale are older than the human species

D/ whales have evolved from early humans that went back to the ocean.

198. Why is it that mutations are considered as one of the raw materials of evolution?

A/ they contribute to new variations in organisms

B/ they are usually related to the environment in which they appear

C/ they mostly beneficial to the organism in which they appear

D/ they usually become the causes for species extinction.

199. Which of the following is consistent with the understanding of human evolution?

A/ bipedalism was never important in human evolution

B/ larger brain size had no contribution to the evolution of the human species

C/ human ancestry had no relation whatsoever with that of the chimpanzees

D/ fossils of Lucy and Ardi provide evidence for human origin.

200. Which of the following is an evolutionary requirement for two sub_ populations of a species to evolve into independent species?

A/ free exchange of genes B/ geographic isolation

C/ free migration between populations D/ absence of natural selection.

201. From evolutionary point of view, which of the following animals is expected to have haemoglobin proteins that are least similar to that of human?

A/ Ape B/ Cow C/Chicken D/Frog.

202. Which of the following expression is more related to the phrase “survival of the fittest”?

A/ Natural selection B/ Mendelian inheritance

C/ Gene mutation D/ Inheritance of acquired characteristics.

203. If a substance that weighs 2000 grams and has a half-life of 100 years is left with only 250 grams, for how long has the radioactive decaying activity been undergoing?

A/200 years B/ 250 years C/ 300 years D/ 500 years.

204. Which of the following is **NOT** true about the nature of the first form of organisms on earth?

They were: A/ Prokaryotic B/ Aerobic C/ Unicellular D/ Anaerobic.

205. "Rats can be by keeping rags and grains at a corner of a room." Which of the following line of thinking supports this statement?

A/ Darwinian evolution B/ Spontaneous generation

C/ Alteration of generation D/ Sexual reproduction.

206. Which of the following is **NOT** a universal property of all living things?

A/ Heritable characters B/ Reproduction C/ Photosynthesis D/ Growth and development.

207. How many years have passed since Darwin's book on the theory of evolution was published?

A/ About 50 years B/ About 160 years C/ About 120 years D/ About 100 years.

208. Which of the following can be understood about living things from the study of how breeders improve domesticated plants and animals?

A/ living things tend to over_ reproduce B/ natural resources are of limited supply

C/living things can be improved through selection D/ individuals compete for resources.

209. What does an evolutionary selective pressure that acts around the mean do?

A/it stabilizes B/ it terminates C/ it converges D/ it disrupts.

210. In his theory of evolution, the cause of which of the following concepts was **MISSING** in Darwin's explanation?

A/ over_ reproduction B/ struggle for survival C/ hereditary variation D/ survival of the fittest.

211. In spite of their ability to form hybrids when mated, which one of the following factors is more important to keep the horse and the donkey as separate species?

A/their hybrid is not viable B/ their hybrid is sterile

C/ they cannot form hybrid zygotes D/ they are ecologically isolated.

212. Which of the following do biologists consider ancestral to the higher organisms of today?

A/ Plantae B/ Animalia C/ Fungi D/ Protista.

213. Which of the following groups are believed to be the first photosynthetic organisms to evolve on earth?

A/ Green plants B/ Green algae C/ Blue green algae D/ Lichens.

214. Which of the following reproductive isolating mechanisms keeps the horse and donkey as two independent species? A/ Hybrid inviablity B/ Hybrid infertility

C/ Ecological isolation D/Habitat isolation.

215. Which of the following factors brings about changes both during evolution and breeding of plants and animals? A/ Limited resources B/ Production of excess progeny

C/ Selection D/ Competition.

216. Among the following four processes, identify the one that probably evolved before all the other three?

A/ Aerobic respiration B/ Anaerobic respiration

C/ Oxidizing atmosphere D/ Photosynthesis.

217. For which of the following can divergent evolution be taken as an alternative name?

A/ Allopatric speciation B/ Adaptive radiation

C/ Sympatric speciation D/ Disruptive selection.

218. Which of the following played an important role in the evolution of human being?

A/ Emergence of wings in addition to limbs B/ Development of even toes in the forearms

C/ Development of feathers and hollow bones D/ Development of opposable thumb to grasp.

219. Which of the following was the most possible mode of evolution by which the many species of Darwin's finches evolved on the Galapagos islands?

A/ Phyletic evolution B/ Convergent evolution C/ Divergent evolution D/ Sympatric evolution.

220. Which of the following species isolating processes could lead to the evolution of a new species by the mechanism known as sympatric speciation?

A/ A river that changed its course for many years

B/ Anew mountain range that was created many years ago

C/Populations of a species having different breeding seasons

D/ A land mass that separated two water bodies for many years.

221. Which one of the following is the result of the similarity observed between the wings of a bird and a pterodactyl? A/ Convergent evolution B/ Directional selection

C/ stabilising selection D/ Divergent evolution.

UNIT_FIVE.

Behavior.

222. Which one of the following do bees use to inform other bees about the location and distance of a new source of nectar they discover?

A/ pheromones B/ waggle dance C/ buzzing noise D/ vibration of wings.

223. Which of the following is **NOT** classified as a learned behavior?

A/insight B/ innate C/ latent D/ conditioned.

224. What do we call the learned behavior if a mouse that had just escaped from the mouth of a cat jumped violently at a slight touch by a trivial object?

A/ latent learning B/sensitization C/ conditioning D/ imprinting.

225. The group of the Ethiopian wolf which does **NOT** contribute to territory making with their urine containing pheromones is _____.

A/ adult males B/ adult females C/ sub_ adult males D/ sub_ adult females.

226. Which of the following is the correct route that connects a stimulus and response?

A/ Receptor → coordinator → effector B/ Coordinator → receptor → effector

C/Receptor → effector → coordinator D/ Effector → receptor → coordinator.

227. To what kind of animal behavior can the spinning of a web by a spider be classified?

A/ learned behavior B/ experiential behavior C/ instinctive behavior D/ accidental behavior.

228. An experimental animal stopped responding to a stimulus that has been repeated so many times.

What type of learned behavior is this?

A/ latent learning B/ habituation C/ imprinting D/ operant conditioning .

229. Behavior that is repeated on a daily basis is referred to as:

A/ lunar B/ circadian C/ circannual D/ seasonal.

230. In which of the activities of the honey bee colony are worker bees involved?

A/ laying eggs B/ serving as queens C/ reproductive functions D/ taking care of the larvae.

231. Which of the following is more true about the male of the honey bee?

A/ it has no father B/ it is sterile C/ it is diploid D/ it regulates the colony.

232. Which of the following is **NOT** true about innate behaviors?

A/ can be improved by trial and error B/ common to all members of the species

C/ present at birth or on hatching D/ do not have to be learned.

233. To which one of the following classes of stimuli do pheromones belong?

A/ auditory B/ smell C/ visual D/ touch.

234. Woodlice are observed avoiding light and heat by quickly moving to moist and darker areas.

Which behavior of these animals helps them to detect differences in light intensity and move to the darker and moist part of the habitat?

A/ instinctive learning B/ negative phototaxis C/ positive phototaxis D/ insight learning.

235. If someone suddenly removes his/her hand from a very hot object, which of the following types of behavior is manifested?

A/ reflex action B/ imprinting C/ learned behavior D/ sensitization.

236. Which of the following involves trial and error learning?

A/ operant conditioning B/ habituation C/ sensitization D/ classical conditioning.

237. Which of the following is responsible for the bending of a young plant towards a unidirectional source of light?

A/ reduced photosynthesis on the back side B/ faster growth rate on the dark side

C/ reduced auxin concentration on the back side D/ increased rate of cell division on the light side.

238. Which of the following is a learned behavior?

A/ suckling of the new born at mother's breasts

B/ salivation by conditioned dogs at the sound of a bell

C/ withdrawal of hands suddenly from hot objects

D/ blinking the eyes when something gets into them.

239. A reflex action that involves internal organs such as the heart is referred to as_____?

A/ Somatic reflex B/ External reflex C/Spinal cord reflex D/ Autonomic reflex.

240. Which of the following activities of an organism do we call a behavior?

A/ Reception of external stimulus B/ Reception of internal stimulus

C/ Responding to stimulus D/ Lack of receptors to receive stimulus.

241. Which of the following organs serves as a coordinating system in a reflex action?

A/ Spinal cord B/ Sense organs C/ Nerve cells D/ Muscle.

242. To which category of behavior does the human behavior that involves the strengthening of existing responses or the formation of new responses to existing stimuli that occur because of practice or repetition belong?

A/ Learned behavior B/ Instinctive behavior C/ Innate behavior D/ Inborn behavior.

243. Which of the following statements can be considered as better definition of the biological concept of behaviour? A/ The reactions of a person or an animal in response to an external or internal stimulus

B/ The responses or reactions or movements that a living plant makes in any situation

C/ A system of coordinated response by an organism to an external or internal stimulus

D/ A receptor of some kind of stimulus that an organism has which produces a response.

244. Which of the following is **NOT** a learned behaviour?

A/ Imprinting B/ Habituation C/ Conditioning D/ Trial and error.

245. If an actively growing potted seedling is kept horizontally, which of the following would eventually happen to the seedling? A/ The shoot would bend upward B/ The root would bend upward

C/ The seedling would stop growing D/ The seedling would grow horizontally.

246. Which of the following is **NOT** grouped under genetically pre-programmed patterns of behaviour?

A/ Reflex actions in humans B/ Orientational behaviour

B/ Conditioned behaviour D/ Instinctive behaviours.

Students text book pages to be read in order to answer the EUEE questions. Grade- 12.

1. Page7.	**2. Page 13.**	**3. Page 27, 28.**	**4. Page32, 33.**	**5.page 29.**	**6.page 13.**	**7.page 15.**	**8.General.**
9.page 32-34.	**10.page 12.**	**11.General.**	**12. page 35.**	**13.page 32.**	**14.page 32.**	**15.page 15.**	**16.page12.**
17.page 7.	**18.page 3.**	**19.General.**	**20.page 8.**	**21.page 4.**	**22.page 15.**	**23.General.**	**24.page 11.**
25.page 16.	**26.page 30,31.**	**27.page 13.**	**28. page 23.**	**29.page 34.**	**30.page 35.**	**31.page 35.**	**32.page 27,29.**
33.page 35.	**34.page 20.**	**35.page 8.**	**36.page 29.**	**37.page 4.**	**38.page 23.**	**39.page 4,46.**	**40.page 33.**
41.page 35.	**42.page 34.**	**43. General.**	**44.page 17,46.**	**45.page 23.**	**46.General.**	**47.page 47.**	**48.page 54.**
49.page 65.	**50.page 82.**	**51.General.**	**52. page 56.**	**53.page 60.**	**54.General.**	**55.page 83.**	**56.General.**
57.page 70.	**58.page 49.**	**59.page 65.**	**60.page 48.**	**61.page 82.**	**62.page 69.**	**63.General.**	**64.page 86.**
65.page 46.	**66.page 49.**	**67.page 55.**	**68.page 58.**	**69.page 45-48.**	**70.page 82, 88.**	**71.page 47.**	**72.General.**
73.page 85,86.	**74.General.**	**75.page 88.**	**76.page 69,70.**	**77.page 55.**	**78.page 66.**	**79.page 49,50.**	**80.page 60.**
81.page 55,56.	**82.page 86.**	**83.page 88,89.**	**84.page 49.**	**85.page 49.**	**86.page 60.**	**87.page 45,46.**	**88.page 47.**
89.page 70,71.	**90.page 64,65.**	**91.page 58.**	**92.page 57.**	**93.General.**	**94.page 86.**	**95.page 88.**	**96.page 67.**
97.page 81.	**98.page 52.**	**99.page 60.**	**100.page 81.**	**101.page 57.**	**102.page 66,67.**	**103.page 90.**	**104.General.**
105.General.	**106.page 76.**	**107.page 46,47.**	**108.General.**	**109.General.**	**110.page 58.**	**111.General.**	**112.page 105.**
113.page 106.	**114.page 154.**	**115.page 103,104.**	**116.page 122.**	**117.page 134.**	**118.page 148.**	**119.page 108.**	**120.page 149.**

121.page 158.	**122.page 107,108.**	**123.page 130.**	**124.page 114.**	**125.page 142,143.**	**126.General.**	**127.General.**	**128.page 152.**
129.page 129.	**130.page 112.**	**131.page 120,121.**	**132.page 137.**	**133.page 123.**	**134.page 106.**	**135.page 142.**	**136.page 142.**
137.page 142.	**138.page 137.**	**139.page 157.**	**140.page 114.**	**141.page 131.**	**142.page 155.**	**143.page 156.**	**144.page 133.**
145.page 130.	**146.page 134.**	**147.page 110.**	**148.General.**	**149.page 106.**	**150.page 122,123.**	**151.page 116.**	**152.page 152.**
153.page 153.	**154.page 157.**	**155.General.**	**156.page 142.**	**157.page 107,108.**	**158.page 146.**	**159.page 134.**	**160.page 142.**
161.page 134-137.	**162.page 122,123.**	**163.page 109,110.**	**164.General.**	**165.General.**	**166.page 120,121.**	**167.page 114.**	**168.General.**
169.page 112.113.	**170.page 107,108.**	**171.page 152,153.**	**172.General.**	**173.page 157.**	**174.General.**	**175.page 216.**	**176.page 199,200.**
177.page 188.	**178.page 207.**	**179.page 205.**	**180.page 181.**	**181.page 197.**	**182.page 188.**	**183.page 186.**	**184.page 208.**
185.page 196.	**186.page 181.**	**187.page 206.**	**188.page 184.**	**189.page 201.**	**190.page 195.**	**191.page 197.**	**192.page 206,207.**
193.page 195.	**194.page 198.**	**195.page 215.**	**196.page 180,181.**	**197.page page 197.**	**198.page 188.**	**199.page 215.**	**200.page 207.**
201.page 200.	**202.page 204.**	**203.page 195.**	**204.page 180,181.**	**205.page 174.**	**206.General.**	**207.page 185.**	**208.page 201.**
209.page 206.	**210.page 188.**	**211.General**	**212.page 180.**	**213.page 180.**	**214.General.**	**215.page 201,204.**	**216.page 180,181.**
217.page 209.	**218. General.**	**219.page 209.**	**220.page 207.**	**221.page 210.**	**222.page 262.**	**223.page 238.**	**224.page 248.**
225.page 258.	**226.page 232.**	**227.page 239.**	**228.page 247.**	**229.page 240.**	**230.page 262.**	**231.General.**	**232.page 238.**
233.page 256.	**234.page 233,234.**	**235.page 239.**	**236.page 250,251.**	**237.page 233.**	**238.page 248.**	**239.page 239.**	**240.page 232.**
241.General.	**242.page 245.**	**243.page 232.**	**244.page 243.**	**245.General.**	**246.page 242.**		

Answer for EUEE Questions Grade 12.

1.D	**2.D**	**3.D**	**4.D**	**5.B**	**6.D**	**7.D**	**8.C**
9.C	**10.B**	**11.B**	**12.C**	**13.B**	**14.C**	**15.A**	**16.D**
17.A	**18.B**	**19.D**	**20.C**	**21.C**	**22.D**	**23.A**	**24.B**
25.D	**26.C**	**27.B**	**28.C**	**29.D**	**30.A**	**31.B**	**32.B**
33.C	**34.B**	**35.C**	**36.C**	**37.B**	**38.B**	**39.A**	**40.C**
41.D	**42.C**	**43.C**	**44.B**	**45.D**	**46.C**	**47.D**	**48.B**
49.D	**50.C**	**51.D**	**52.B**	**53.C**	**54.A**	**55.D**	**56.D**
57.B	**58.C**	**59.B**	**60.B**	**61.D**	**62.A**	**63.B**	**64.C**
65.A	**66.D**	**67.A**	**68.C**	**69.D**	**70.A**	**71.A**	**72.C**
73.A	**74.C**	**75.A**	**76.D**	**77.C**	**78.B**	**79.B**	**80.D**
81.D	**82.B**	**83.D**	**84.A**	**85.D**	**86.D**	**87.D**	**88.C**
89.D	**90.D**	**91.B**	**92.B**	**93.C**	**94.C**	**95.C**	**96.B**
97.C	**98.D**	**99.A**	**100.C**	**101.C**	**102.D**	**103.A**	**104.B**
105.C	**106.B**	**107.B**	**108.D**	**109.A**	**110.D**	**111.C**	**112.D**
113.C	**114.D**	**115.A**	**116.D**	**117.C**	**118.B**	**119.A**	**120.C**
121.A	**122.C**	**123.B**	**124.B**	**125.C**	**126.D**	**127.D**	**128.A**
129.A	**130.D**	**131.C**	**132.B**	**133.B**	**134.B**	**135.B**	**136.C**
137.B	**138.D**	**139.D**	**140.C**	**141.C**	**142.B**	**143.A**	**144.C**
145.D	**146.B**	**147.C**	**148.B**	**149.A**	**150.B**	**151.C**	**152.A**
153.B	**154.A**	**155.A**	**156.C**	**157.D**	**158.D**	**159.C**	**160.D**
161.A	**162.B**	**163.C**	**164.B**	**165.C**	**166.D**	**167.C**	**168.D**
169.B	**170.B**	**171.B**	**172.A**	**173.C**	**174.D**	**175.B**	**176.C**
177.D	**178.B**	**179.D**	**180.B**	**181.C**	**182.D**	**183.D**	**184.C**
185.B	**186.B**	**187.C**	**188.C**	**189.C**	**190.D**	**191.C**	**192.C**
193.D	**194.A**	**195.B**	**196.C**	**197.B**	**198.A**	**199.D**	**200.B**
201.D	**202.A**	**203.C**	**204.B**	**205.B**	**206.C**	**207.A**	**208.C**
209.D	**210.C**	**211.B**	**212.D**	**213.C**	**214.B**	**215.C**	**216.B**
217.B	**218.D**	**219.C**	**220.C**	**221.A**	**222.B**	**223.B**	**224.B**
225.D	**226.A**	**227.C**	**228.B**	**229.B**	**230.D**	**231.A**	**232.A**
233.B	**234.B**	**235.A**	**236.A**	**237.B**	**238.B**	**239.D**	**240.C**
241.A	**242.A**	**243.C**	**244.A**	**245.D**	**246.B**		