PREVIOUS YEAR PAPER

DSSSB Senior Scientific Assistant (Biology) 2021 — 18 September 2021, Shift 2

DSSSB Other Posts · 18 September 2021 · Shift 2

167 of the paper's 200 questions · +1 for a correct answer, −0.25 for a wrong one · 120 minutes

Left out of the original paper: 33 (any question that needs a figure, a symbol or formatting we cannot show, or whose text did not read back cleanly from the booklet).

Questions from the Delhi Subordinate Services Selection Board's paper of 18 September 2021, Shift 2. Each question is followed by its answer, and the answer key is repeated on the last page.

Take it as a timed practice test: exambharo.com/dsssb-other-posts/previous-year-papers/dsssb-other-posts-2021-senior-scientific-assistant-biology-18-sep-shift-2/

General Ability

1. A series is given with one term missing. Select the CORRECT alternative from the given ones that will complete the series.
QC, RA, SY, TW, UU, ?

(a) WT
(b) WS
(c) VT
(d) VS

Answer: (d)

2. A series is given with one term missing. Select the CORRECT alternative from the given ones that will complete the series.
ND6, QA12, TX24, WU48, ZR96, ?

(a) CO192
(b) BO192
(c) CO182
(d) BO182

Answer: (a)

3. In the following question, four letter pairs are given. The letters on left side of (–) is related to the letters on the right side of (–) with some Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the ODD one out from the given alternatives.

(a) GV – FW
(b) WQ – XR
(c) SK – RL
(d) DP – CQ

Answer: (b)

4. In the following question, a group of letters is given. The letters of each group are related with the letters of the same group by some Logic/Rule/Relation. From the given alternatives, select a group of letters which follows the same Logic/Rule/Relation.
(GQ, FS, EU)

(a) (VO, UQ, TR)

(b) (BJ, AK, ZL)

(c) (NF, MH, LJ)

(d) (XC, WE, VI)

Answer: (c)

5. In the following question, select the related letter pair from the given alternatives.
QDW : WZR :: ?

(a) SPC : YLW

(b) LTM : RPH

(c) YHV : DDQ

(d) NGQ : TCJ

Answer: (b)

6. In a certain code language, 'You are coming late' is written as '4281', 'Boys are going late' is written as '2568'. What is the code for 'you coming' in that code language?

(a) 18

(b) 14

(c) 48

(d) 25

Answer: (b)

7. In a certain code language, 'MOON' is written as '1221', 'SHIP' is written as '1121'. What is the code for 'WATER' in that code language?

(a) 12121

(b) 12112

(c) 12122

(d) 21121

Answer: (a)

8. Five boys B1, B2, B3, B4 and B5 likes one among five different fruits F1, F2, F3, F4 and F5 (not necessarily in the same order). B4 and B5 do not like F3 or F5. B3 likes F4. B1 does not like F1 and F3. Which of the following combination is CORRECT?

(a) B4 – F1

(b) B5 – F2

(c) B1 – F5

(d) B4 – F2

Answer: (c)

9. If 'A + B' means 'A is the brother of B', 'A – B' means 'A is the sister of B', 'A * B' means 'A is the father of B', 'A @ B' means 'A is the wife of B' and 'A # B' means 'A is the mother of B' then which of the following expression represents T as a son in law of R?

(a) P – Q # R + S @ T

(b) P * Q @ R + S – T

(c) P # Q – R * S + T

(d) P + Q @ R * S @ T

Answer: (d)

10. In the following question below are given some statements followed by some conclusions based on those statements. Taking the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements.
Statements:
I. Some N are Z.
II. Some P are Z.
Conclusions:
I. Some N are P.
II. Some Z are N.

(a) Only conclusion I follows

(b) Only conclusion II follows

(c) Both conclusion I and II follows

(d) Neither conclusion follows

Answer: (b)

11. In the following question below are give[illegible]me [illegible]tements followed by some conclusions based on those statements. Taking the given statem[illegible] be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements.
Statements:
I. All Z are Y.
II. All Z are N.
Conclusions:
I. All Y are N.
II. All N are Y.
III. Some Y are N.

(a) Only conclusion I follows

(b) Only conclusion II follows

(c) Only conclusion III follows

(d) All conclusion follows

Answer: (c)

12. In the following question, select the related number from the given alternatives.
11 : 144 :: 15 : ?

(a) 256
(b) 289
(c) 196
(d) 121

Answer: (a)

13. In the following question, select the missing number from the given series.
600, 605, 615, 632, 658, ?

(a) 678
(b) 685
(c) 688
(d) 695

Answer: (d)

15. One evening before sunset, A and B were talking to each other face to face. On that time A's shadow was in the right hand of B. In which direction was B facing?

(a) North
(b) South
(c) East
(d) West

Answer: (a)

16. Mahesh walks 50 km towards the west, turns to the right and walks 40 km. He turns to the left and walks 30 km. He turns to the right and walks 40 km. Finally he turns to the right and walks 140 km. How far and in which direction is he now from the starting point?

(a) 100 km, North-East
(b) 100 km, South-West
(c) 130 km, South-West
(d) 130 km, North-East

Answer: (a)

19. If a cube of 9 cm side is divided into smaller cubes of 3 cm side, then what is the total number of smaller cubes?

(a) 9
(b) 27
(c) 16
(d) 64

Answer: (b)

General Awareness

21. Kathakali is a classical dance form of which state of India?

(a) Tamil Nadu
(b) Kerala
(c) Uttar Pradesh
(d) Assam

Answer: (b)

22. Which of the following pair of Festival – State is CORRECT?
I. Ambubachi Festival – Assam
II. Hornbill Festival – Nagaland

(a) Only I
(b) Only II
(c) Both I and II
(d) Neither I nor II

Answer: (c)

23. Reserve ratio can also be called _____.

(a) Cash Reserve Ratio
(b) Cash Ratio
(c) Liquid Reserve Ratio
(d) Required Ratio

Answer: (a)

24. Goods that may be used by other producers as terial inputs are called _____.

(a) Intermediate goods
(b) Final goods
(c) Consumer goods
(d) Capital goods

Answer: (a)

25. Which of the following elements has maximum atomic radius?

(a) Boron
(b) Nitrogen
(c) Lithium
(d) Oxygen

Answer: (c)

26. The area enclosed by velocity-time graph and the time axis is equal to the magnitude of _____.

(a) Distance
(b) Displacement
(c) Acceleration
(d) Momentum

Answer: (b)

27. Which of the following statement is NOT correct?
I. Cyclostomes are Jawless vertebrates.
II. Arthropoda is the largest group of animals.

(a) Only I
(b) Only II
(c) Both I and II
(d) Neither I nor II

Answer: (d)

28. Entire northern plains are made of _____.

(a) Black soil
(b) Alluvial soil
(c) Laterite soil
(d) Arid soil

Answer: (b)

29. Sardar Sarovar Dam has been built over _____ river.

(a) Narmada
(b) Tapi
(c) Brahmputra
(d) Kaveri

Answer: (a)

30. Paper was invented in _____ about 1900 yea go.

(a) India
(b) Russia
(c) China
(d) France

Answer: (c)

31. Vijayalaya was a ruler of _____ dynasty.

(a) Cholas
(b) Pallavas
(c) Chahamanas
(d) Chalukyas

Answer: (a)

32. Silappadikaram was composed by _____.

(a) Ilango
(b) Kovalan
(c) Madhavi
(d) Sattanar

Answer: (a)

33. Which of the following statement is CORRECT?
I. Mongol attacks on the Delhi Sultanate increased during the reign of Alauddin Khalji and in the early years of Muhammad Tughluq's rule.
II. Muhammad Tughluq paid his soldiers cash salaries

(a) Only I
(b) Only II
(c) Both I and II
(d) Neither I nor II

Answer: (c)

34. Who among the following is also called 'Bismark of India'?

(a) Rabindranath Tagore
(b) Sardar Vallabhbhai Patel
(c) Bhagat Singh
(d) Chandrashekhar Azad

Answer: (b)

35. Which of the following pair of international organisation – headquarters location is CORRECT?
I. International Labour Organisation – Geneva
II. International Atomic Energy Agency – Vienna

(a) Only I
(b) Only II
(c) Both I and II
(d) Neither I nor II

Answer: (c)

36. By which amendment act of Indian constitution, the term 'Socialist' was added in the preamble of the constitution?

(a) 42nd Amendment Act
(b) 44th Amendment Act
(c) 46th Amendment Act
(d) 74th Amendment Act

Answer: (a)

37. Which of the following statement is CORRECT?
I. On December 11, 1946, the constituent assembly elected Dr. Rajendra Prasad as its permanent chairman.
II. Provision of directive principles of state policy in Indian constitution were borrowed from the constitution of Russia.

(a) Only I
(b) Only II
(c) Both I and II
(d) Neither I nor II

Answer: (a)

38. Headquarters of International Olympic Committee is situated in _____.

(a) Switzerland
(b) United states of America
(c) Australia
(d) France

Answer: (a)

39. Which country will host 2023 Men's Hockey World Cup?

(a) India
(b) Australia
(c) China
(d) France

Answer: (a)

40. Who among the following is first Indian Female Swimmer to qualify Tokyo Olympic 2020 (played in 2021)?

(a) Shivani Kataria
(b) Nisha Millet
(c) Maana Patel
(d) Shikha Tandon

Answer: (c)

Arithmetic Ability

41. If (4/5) of a certain number is 24, then [illegible] is [illegible] half of that number?

(a) 10
(b) 15
(c) 20
(d) 30

Answer: (b)

42. How many numbers between 100 and 300 are divisible by 8?

(a) 23
(b) 24
(c) 25
(d) 26

Answer: (c)

43. Marked price and selling price of a laptop are Rs. 42000 and Rs. 36540 respectively. What is the discount percentage?

(a) 10 percent
(b) 13 percent
(c) 15 percent
(d) 17 percent

Answer: (b)

44. In what ratio sugar of Rs. 70 per kg should be mixed with another sugar of Rs. 100 per kg so that on selling this mixture for Rs. 114 per kg, there will be a profit of 50 percent?

(a) 2 : 5
(b) 7 : 22
(c) 7 : 8
(d) 4 : 1

Answer: (d)

45. Price of a pen and a table are Rs. 1500 and Rs. 5250 respectively. Price of table is how much percent more than the price of pen?

(a) 450 percent
(b) 150 percent
(c) 350 percent
(d) 250 percent

Answer: (d)

46. A = 3250 and B = 3750. Half of the sum of A and B is 32 percent of C. What is the value of C?

(a) 18000
(b) 9007.5
(c) 10937.5
(d) 21875

Answer: (c)

47. A book is sold at a profit of 60 percent. The valu f profit is what percentage of the selling price?

(a) 44.44 percent
(b) 42.56 percent
(c) 37.5 percent
(d) 33.33 percent

Answer: (c)

48. Two articles are sold at the rate of Rs. 3600 per article. One article is sold at a profit of 60 percent and other is sold at a loss of 40 percent. What will be overall loss percentage?

(a) 15.55 percent
(b) 14.28 percent
(c) 13.5 percent
(d) 12.73 percent

Answer: (d)

49. Ratio of the income of Vinay and Raj is 14 : 15 respectively. If difference between their income is Rs. 5000, then what is the income of Raj?

(a) Rs. 75000
(b) Rs. 80000
(c) Rs. 84000
(d) Rs. 90000

Answer: (a)

50. Average of ten consecutive odd numbers is 74. If next eight odd numbers are also included, then what will be average of eighteen odd numbers?

(a) 80
(b) 82
(c) 84
(d) 86

Answer: (b)

51. Simple interest received on a sum of Rs. 22000 at the rate of 8 percent per annum is Rs. 10560. What is the time period?

(a) 6 years
(b) 7 years
(c) 8 years
(d) 9 years

Answer: (a)

52. Compound interest (compounding ann[illegible]) on a sum of Rs. 40000 is Rs. 29120 for three years. What will be the simple interest on the same [illegible] the five years at the same rate of interest?

(a) Rs. 32000
(b) Rs. 40000
(c) Rs. 48000
(d) Rs. 60000

Answer: (b)

53. Rohit is moving at the speed of 72 km/hr. How much distance will he cover is 10 seconds?

(a) 200 metres
(b) 240 metres
(c) 280 metres
(d) 320 metres

Answer: (a)

54. A train can cross a platform and a pole in 20 seconds and 12 seconds respectively. If the speed of train is 108 km/hr, then what is the length of platform?

(a) 480 metres

(b) 360 metres

(c) 240 metres

(d) 180 metres

Answer: (c)

55. Shivani can complete work in 15 days. Shivani is five as efficient as Preeti. In how many days Preeti can complete the same work?

(a) 45 days

(b) 55 days

(c) 60 days

(d) 75 days

Answer: (d)

56. Pramod and Suresh can complete a work in 20 days and 50 days respectively. Ram can complete the same work in 10 days more than the Suresh.
If Pramod and Ram start the work together and Suresh join them after 2 days, then how many total days will they take to complete the work from the beginning?

(a) 12 days

(b) 15 days

(c) 18 days

(d) 10 days

Answer: (a)

General English

61. Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.
Carbon dioxide is the (1)/mostly common (2)/greenhouse gas in the atmosphere. (3)/ No error (4)

(a) Carbon dioxide is the

(b) mostly common

(c) greenhouse gas in the atmosphere.

(d) No error

Answer: (b)

62. Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.
Asteroids in the/asteroid belt move/ very fastly./No error

(a) Asteroids in the

(b) asteroid belt move

(c) very fastly.

(d) No error

Answer: (c)

65. A sentence has been given with a blank to be filled with an appropriate word/words. Choose the CORRECT alternative.
Girls are more _____ to drop out of school than boys due to family pressure.

(a) largely
(b) like
(c) likely
(d) liked

Answer: (c)

66. A sentence has been given with a blank to be filled with an appropriate word/words. Choose the CORRECT alternative.
A _____ wolf tried to convince Red to come out of the cottage and into the woods.

(a) rotten
(b) shady
(c) benign
(d) altruistic

Answer: (b)

67. The question below consists of a set of labeled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.
P: Crop failure can occur over large areas downwind from major ash eruptions, and widespread famine and disease may result, especially in poorly developed countries.
Q: However, where the ash accumulates more than a few centimetres, collapsing roofs and failure of crops are major secondary hazards.
R: Ash falls from continued explosive jetting of fine volcanic particles generally do not cause any direct fatalities.
S: In the long run, however, the decomposition of nutrient-rich volcanic fallout is responsible for some of the world's best soils.

(a) SRQP
(b) RPSQ
(c) QSPR
(d) RQPS

Answer: (d)

68. The question below consists of a set of labeled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.
P: His other major discovery, of the antiseptic enzyme lysozyme in 1921, was made after he had accidentally contaminated a culture plate with his own flu germs.
Q: Incidentally, Fleming seemed to thrive on contamination.
R: The mould toxin responsible for killing the bacteria turned out to be penicillin, which Australian pathologist Howard Walter Florey and British biochemist Ernst Boris Chain later successfully isolated and purified to produce what became arguably the world's most effective live-saving antibiotic.
S: In 1928 Scottish bacteriologist Alexander Fleming was in the process of sterilizing bacterial culture plates that had become contaminated with mould when he noticed clear zones circling mould colonies.

(a) SRQP
(b) PSRQ
(c) QRPS
(d) SPQR

Answer: (a)

69. Choose the word that means the same as the given word.
Greed

(a) Analogous
(b) Avarice
(c) Allay
(d) Alloy

Answer: (b)

70. Choose the word that is opposite in meaning to the given word.
Inspire

(a) Reassure
(b) Educe
(c) Daunt
(d) Wrest

Answer: (c)

71. In the given question, four words are given out of which one word is correctly spelt. Choose the CORRECTLY spelt word.

(a) Racun
(b) Raccon
(c) Recoon
(d) Raccoon

Answer: (d)

72. In the given question, four words are given out of which one word is correctly spelt. Choose the CORRECTLY spelt word.

(a) Missisippi

(b) Mississippi

(c) Misissippi

(d) Mississipi

Answer: (b)

73. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.
To move heaven and earth

(a) Under a moral obligation

(b) To do all the work on time

(c) To make maximum efforts

(d) To accept a disaster

Answer: (c)

74. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.
To blow the gaff

(a) To reveal a secret

(b) To be happy

(c) To give up on one's plan

(d) To be apologetic

Answer: (a)

75. Choose the word that can substitute the given sentence.
The vegetation of a particular area

(a) Fauna

(b) Flora

(c) Epidemic

(d) Landscape

Answer: (b)

77. Which of the following is NOT one of the bast fibres?

(a) Flax

(b) Asbestos

(c) Jute

(d) Hemp

Answer: (b)

79. Identify the incorrect pair of 'type of natural fibre-example' from the following.
I. Animal fibre- Cotton
II. Mineral fibre- Mohair

(a) Only I
(b) Only II
(c) Both I and II
(d) Neither I nor II

Answer: (c)

Discipline1

101. In the respiratory pathway, which of the following compounds is NOT an intermediate in the Kreb's cycle?

(a) Phosphoglyceric acid
(b) Oxaloacetic acid
(c) Succinic acid
(d) Malic acid

Answer: (a)

102. Which of the following molecules is generally NOT required for making recombinant DNA?

(a) Restriction enzyme
(b) Vector
(c) DNA ligase
(d) Taq polymerase

Answer: (d)

103. Which of the following parts of a seed is NOT of embryonic origin?

(a) Shoot apical meristem
(b) Hypocotyl
(c) Testa
(d) Cotyledon

Answer: (c)

104. Biological systematics is the study of the _____ of living forms, both past and present, and the relationships among living things through time.

(a) Synthesis
(b) Analysis
(c) Diversification
(d) Development

Answer: (c)

105. Technologies used by plant breeders for developing new varieties does NOT include:

(a) Embryo culture

(b) Marker-assisted selection

(c) Genetic engineering

(d) Selection

Answer: (d)

106. Ergot disease is caused by the fungal pathogen Claviceps purpurea in crop plants like Bajra. Symptoms of this disease are seen in which of the following parts of the plant?

(a) Root

(b) Stem

(c) Leaf

(d) Flower

Answer: (d)

107. The ozone layer in the atmosphere shields us from harmful UV rays from the sun. This layer is damaged by:

(a) Acid rain

(b) Chlorofluorocarbons

(c) Nitrogen dioxide

(d) Lightning

Answer: (b)

108. Bacteria share the following feature with proto[illegible]:

(a) Presence of nucleus

(b) Presence of cell wall

(c) Presence of plasma membrane

(d) Presence of contractile vacuole

Answer: (c)

109. Which of the following does NOT represent an Archegoniate?

(a) Marchantia

(b) Cycas

(c) Allium

(d) Pteridium

Answer: (c)

110. Which of the following is NOT a biome?

(a) Grassland

(b) Forest

(c) Desert

(d) Mountain

Answer: (d)

111. Which one of the following processes does NOT contribute to genetic diversity?

(a) Mutation

(b) Genetic drift

(c) Migration

(d) Selective breeding

Answer: (d)

112. Which of the following are NOT involved in the manifestation of an immune response?

(a) Lymphocytes

(b) Neutrophils

(c) Erythrocytes

(d) Macrophages

Answer: (c)

113. Which one of the following branches of genetics deals with studies on the structure of DNA within the cell nucleus?

(a) Cytogenetics

(b) Psychogenetics

(c) Biogenetics

(d) Cryokinetics

Answer: (a)

114. Genetic engineering, also called genetic modific n or genetic manipulation, is the direct manipulation of an organism's genes using:

(a) Bioinformatics

(b) Biotechnology

(c) Biogenetics

(d) Biologics

Answer: (b)

115. If the _____ is not functioning as it should, it can result in disease, such as autoimmunity, allergy and cancer.

(a) Genome system

(b) immune system

(c) DNA science

(d) RNA science

Answer: (b)

116. The study of _____ enables scientists to understand how cell programs and reactions function normally as well as the relationships between those processes and gene expression.

(a) molecular cell chemistry

(b) molecular cell ecology

(c) molecular cell biology

(d) molecular cell informatics

Answer: (c)

117. This is the science of designing, conducting, analysing and interpreting studies aimed at improving public health and medicine.

(a) Biostatistics

(b) Bioinformatics

(c) Bio-chemistry

(d) Biologic

Answer: (a)

118. RNA, abbreviation of ribonucleic acid, is a complex compound of high molecular weight that functions in cellular protein synthesis and replaces DNA deoxyribonucleic acid as a _____ in some viruses.

(a) carrier of biotic codes

(b) carrier of pro-biotic codes

(c) carrier of genetic codes

(d) carrier of RNA codes

Answer: (c)

119. Epigenetic information refers to heritable changes in gene expression that occur without modifications at the:

(a) Core structure

(b) Genome architecture

(c) RNA sequence level.

(d) DNA sequence level.

Answer: (d)

120. _____ includes the physiology and bi stry of insect organ systems.

(a) Insect physiology

(b) Insect informatics

(c) Insect biology

(d) Insect morphology

Answer: (a)

Discipline2

121. _____ is the scientific study of how the component parts of fish function together in the living fish contrasted with _____, which is the study of the form or morphology of fishes.

(a) Fish anatomy; fish physiology

(b) Fish physiology; fish anatomy

(c) Fish physiology; fish psychology

(d) Fish physiology; fish oncology

Answer: (b)

122. _____, or childbirth, is the process by which the uterus expels the fetus from the mother's body.

(a) Evolution
(b) Obvolution
(c) Parturition
(d) Partition

Answer: (c)

123. This is a branch which is an organism's complete set of DNA, is an interdisciplinary field of science that focuses on the structure, function, evolution, mapping and editing of genomes.

(a) Neural
(b) Genomics
(c) Statistical
(d) Structural

Answer: (b)

124. _____ investigates heritable changes in gene expression that occur without changes in DNA sequence.

(a) Computational genomics
(b) Bioinformatics
(c) Genomics
(d) Epigenetics

Answer: (d)

125. Which of the following processes beg[illegible]with [illegible] implantation of the fertilised egg to the wall of the uterus and once the fertilised egg is a[illegible], growth and development rapidly accelerate?

(a) Pregnancy
(b) Surgery
(c) Fertilization
(d) Fallopian operation

Answer: (a)

126. Who coined the term 'Criminalistics'?

(a) Jane Addams
(b) Jeremy Bentham
(c) Paul Kirk
(d) Hans Eysenck

Answer: (c)

127. In United States, the federal crime labs located within the Department of Justice are under the administrative control of which of the following?

(a) Secretary
(b) President
(c) Attorney General
(d) Vice President

Answer: (c)

128. Which of the following agencies prevent attempts at counterfeiting money and credit cards?

(a) The Internal Revenue Service
(b) The United States Department of the Interior
(c) The United States Postal Service
(d) The United States Secret Service

Answer: (d)

129. The tendency of the blood to pool at the lowest part of the body under the influence of gravity after death is known as _____.

(a) Algor mortis
(b) Livor mortis
(c) Rigor mortis
(d) Pallor Mortis

Answer: (b)

130. A Polygraph section will fall under which of the ctions of a Forensic science lab?
1. Intake Section
2. Analysis Area

(a) Only 1
(b) Only 2
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (d)

131. The process Corpus Delicti is an important part of _____.

(a) Controlling the crime scene
(b) Handling safety issues
(c) Documentation at the crime scene
(d) Searching the crime scene

Answer: (c)

132. What is the search method of the crime scene that is used if the scene includes several rooms to be searched systematically?

(a) Grid method
(b) Zone method
(c) Spiral method
(d) Line search method

Answer: (b)

133. How many times does the evidence collected at the crime scene passes through the Criminal Investigator before finally reaching to the court?

(a) 2 times
(b) 4 times
(c) 3 times
(d) Once only

Answer: (c)

134. Which of the following are the last evidence taken at the crime scene?

(a) Fingerprints
(b) Footprints
(c) Blood
(d) Hairs

Answer: (a)

135. Which of the following is NOT an example of D onstrative evidence?

(a) Crime scene drawings
(b) Shoeprints
(c) Photographs
(d) Videotapes

Answer: (b)

136. Examples of Exemplars is/are:
1. DNA
2. Voiceprints
3. Hair

(a) Only 2
(b) Both 1 and 3
(c) All 1, 2 and 3
(d) Both 1 and 2

Answer: (c)

137. Which of the following is NOT a class evidence example?

(a) Soils
(b) Hairs
(c) Explosives
(d) Handwriting

Answer: (d)

138. Which of the following is NOT a type of an evidence?

(a) Individual - Class
(b) Technical - Unknown
(c) Physical - Nonphysical
(d) Real - demonstrative

Answer: (b)

139. Which of the following is NOT the branch of Anthropology under the British school of thought?

(a) Physical Anthropology
(b) Social Anthropology
(c) Archaeology
(d) Linguistic Anthropology

Answer: (d)

140. Who among the following Archeologists gave the idea of "Three age system"?

(a) Christian Jurgensen Thomsen
(b) Howard Carter
(c) Louis Leakey
(d) Mark Lehner

Answer: (a)

Discipline3

141. Which one of the following is NOT a type of Biological Adaptation?

(a) Acclimatization
(b) Genetic adaptations
(c) Body size and shape
(d) Technological adaptation

Answer: (d)

142. Ethnicity pertains to the word ethnic which is a distinction of mankind based on:

(a) Caste
(b) Race
(c) Class
(d) Religion

Answer: (b)

143. The initiatives led by Norman Borlaug involved:

(a) Development of high yielding varieties of sugarcane

(b) Distribution of indigenous seeds

(c) Development Natural fertilizers

(d) Expansion of irrigation infrastructure

Answer: (d)

144. In normal human being, the nucleus of each cell contains _____ chromosomes.

(a) 51

(b) 46

(c) 34

(d) 60

Answer: (b)

145. Which among the following is NOT one of the major factors of Evolution?

(a) Mutation

(b) Human induced selection

(c) Genetic drift

(d) Gene flow

Answer: (b)

146. _____ has yielded early Acheulian assemblag

(a) Vijaydurg Fort in Maharashtra

(b) Morgaon, a site from Deccan basalt landsca

(c) Paisra in Munger district, Bihar

(d) Hunsgi in the Hunsgi valley

Answer: (c)

147. Who among the following is one of the Early Evolutionists?

(a) Adam Smith

(b) Lawrence Robert Klein

(c) Robert Lucas Jr.

(d) Elinor Ostrom

Answer: (a)

148. Victor Turner relates the performance of rituals to _____ process.

(a) Cultural

(b) Environmental

(c) Economic

(d) Social

Answer: (d)

149. Kinanthropometry comprises of three _____ words kinein (to move), anthropos (man) and metrein (to measure).

(a) German
(b) French
(c) English
(d) Greek

Answer: (d)

150. Who among the following is well known as the founder of modern genetics

(a) August Weismann
(b) Gregor Mendel
(c) Carl Correns
(d) Hugo de Vries

Answer: (b)

151. It is with the writings of the book "A Vindication of the Rights of Women", by _____ that one traces the birth of Liberal Feminism as a separate feminist movement.

(a) Tiera Guinn
(b) Elizabeth Blackwell
(c) Mary Wollstonecraft
(d) Jane Goodall

Answer: (c)

152. _____ are proteins that bind to unfolded or misfolded proteins to promote their normal folding.

(a) Ligands
(b) Allosteric protein
(c) Chaperons
(d) Residues

Answer: (c)

153. _____ is a technique for determining molecular structure in which the electron beam of an electron microscope is used to elicit diffraction from a two-dimensional crystal of the molecules of interest.

(a) Electron spectroscopy
(b) Electron crystallography
(c) Molecular exclusion chromatography
(d) Atomic spectroscopy

Answer: (b)

154. Gluconeogenesis occurs in _____.
I) Liver
II) Kidney
III)Pancreas

(a) I Only
(b) I and II Only
(c) II and III Only
(d) III Only

Answer: (b)

155. Bovine pancreas is NOT a source for which of the following peptidases?

(a) Carboxypeptidase A
(b) Trypsin
(c) Chymotrypsin
(d) Papain

Answer: (d)

156. The enzyme, succinate dehydrogenase converts succinate to _____ .

(a) Malonic Acid
(b) Fumarate
(c) Pyruvate
(d) Lactate

Answer: (b)

157. Which of the following DNA sequencing techniques is also referred to as dideoxy sequencing?

(a) Maxam-Gilbert Sequencing
(b) Sanger Sequencing
(c) High-throughput Sequencing
(d) Miller Sequencing

Answer: (b)

158. _____ is the process in which Introns are removed from RNA after transcription and Exons are joined.

(a) Sequencing
(b) Transcription
(c) Translation
(d) Splicing

Answer: (d)

159. Which of the following is achieved by DNA ligase enzymes?

(a) Joining two pieces of DNA by forming phosphodiester bonds
(b) Recognizing the restriction site on a double-stranded DNA molecule
(c) Cleaving the DNA at the recognition site
(d) Cleaving the DNA at places other than the restriction site

Answer: (a)

160. Which of the following classes of restriction endonucleases cleave DNA at just the recognition sites?
I) Type I
II) Type II
III)Type III

(a) I Only
(b) II Only
(c) I and II Only
(d) I and III Only

Answer: (b)

Discipline4

161. Identify the mode of action of Tetracycline antibiotic.

(a) Inhibits bacterial cell wall synthesis by disrupting peptidoglycan cross-linking
(b) Inhibits the secretion of gene products β-Lactamase and Neomycin
(c) Inhibits binding of aminoacyl tRNA to the 30S ribosomal subunit
(d) Inactivates translation by interfering with ribosome function

Answer: (c)

162. Which of the following is NOT a step involved in Polymerase chain reaction (PCR)?

(a) Denaturation
(b) Annealing
(c) Splicing
(d) Primer extension

Answer: (c)

163. Which of the following statement is NOT true about retinoblastoma protein (pRB)?

(a) pRB is often called the “cell cycle master switch.”
(b) pRB accelerates entry of cells into S phase.
(c) Hypophosphorylated pRB binds the E2F transcription factor complex.
(d) During mid to late G1 phase of the cell cycle, pRB is phosphorylated by cyclin–CDK complexes.

Answer: (b)

164. The tumor suppressor protein _____ is often referred to as the “guardian of the genome.”

(a) p53
(b) pRB
(c) p21
(d) p14

Answer: (a)

165. Which of the following are common structures between prokaryotic and eukaryotic cells?
1. Cytoplasm
2. Ribosomes
3. genetic material

(a) Only 1
(b) Both 1 and 3
(c) Both 2 and 3
(d) All 1, 2 and 3

Answer: (d)

166. Which of the following is/are NOT true for viruses?
1. they replicate or multiply
2. presence of nuclei or mitochondria 3. they are obligate intracellular parasites

(a) Only 1
(b) Only 2
(c) Only 3
(d) All 1, 2 and 3

Answer: (b)

167. Which of the following bacteria is NOT a chemoorganotroph?

(a) Pseudomonas
(b) Lactobacillus
(c) E coli
(d) Nitrosomonas

Answer: (d)

168. Which of the following is NOT a characteristic of Innate immunity?

(a) Starts fast in mins/hours
(b) Highly specific to foreign proteins i.e., antigens
(c) Stimulates the acquired immune response
(d) Cells involved are NK cells, neutrophils and macrophages

Answer: (b)

169. which of the following is/are TRUE about Viral oncogenes?
1. They are viral homologs of the cellular oncogenes 2. Generally found in retroviruses

(a) Only 1
(b) Only 2
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (c)

170. Lymphatic vessels consist of:
1. Peyer's Patches 2. Venules
3. Ducts
4. Thymus

(a) Both 1 and 4
(b) Both 2 and 3
(c) All 1, 3, and 4
(d) All 2, 3 and 4

Answer: (b)

171. Which of the following statement is NOT true about enzyme structure?

(a) Many enzymes contain a non-protein component known as cofactor.
(b) A cofactor may be another organic molecule, in which case it is called a coenzyme.
(c) When an enzyme requires a cofactor for activity, the cofactor is called apoenzyme.
(d) A coenzyme that binds permanently to the protein is called prosthetic group.

Answer: (c)

172. The examples of Therapeutic agents; a type of enzyme, are:
A. Glucose isomerase
B. Urokinase
C. Peroxidase

(a) Only A
(b) Only B
(c) Only C
(d) Both A and B

Answer: (b)

173. Constitutive Plant Defense include (s): a. Toxic chemicals
b. Thorns, Spine
c. Cell walls

(a) Both a and b
(b) Both a and c
(c) Both b and c
(d) All a, b and c

Answer: (c)

174. The common diseases contracted via the G.I Tract is/are:
1. Ulcers
2. Diphtheria

(a) Only 1
(b) Only 2
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (a)

175. Which of the following is NOT true about Restriction enzyme? i. Known as the scissors of molecular genetics ii. Generally found in fungi and viruses iii. REases recognize DNA base sequence that are palindrome

(a) Only i

(b) Only ii

(c) Both i and ii

(d) Both ii and iii

Answer: (b)

176. Vectors used in rDNA technology is/are:
A. Lambda phage
B. cosmid

(a) Only A

(b) Only B

(c) Both A and B

(d) Neither A nor B

Answer: (c)

177. Examples of bacteria used for SCP Production is/are:
1. Candida utilis
2. Pseudomonas fluroescens
3. Chondrus crispus

(a) Only 1

(b) Only 2

(c) Only 3

(d) All 1, 2 and 3

Answer: (b)

178. With reference to genetics, choose the odd term out.

(a) Heredity

(b) Living organisms

(c) Variation

(d) Variance

Answer: (d)

179. Population genetics describes the variation in _____ between groups in a statistical manner.

(a) gene structures

(b) gene frequencies

(c) gene semantics

(d) gene expressions

Answer: (b)

180. The following is the process of controlling which genes in a cell's DNA are expressed that are used to make a functional product such as a protein.

(a) Gene variation

(b) Gene formation

(c) Gene collection

(d) Gene regulation

Answer: (d)

Discipline5

181. This is an interdisciplinary field mainly involving molecular biology and genetics, computer science, mathematics and statistics addressing data intensive, large-scale biological problems from computational point of view.

(a) Neuroscience

(b) Nanotechnology

(c) Biotechnology

(d) Bioinformatics

Answer: (d)

182. In biology a _____ is a group of individual cells or organisms descended from one progenitor.

(a) Clone

(b) Chromosome

(c) Nano-man

(d) Epitome

Answer: (a)

183. The root _____ is the dynamic community of microorganisms associated with plant roots.

(a) Mini-biome

(b) Neuro-biome

(c) Nano-biome

(d) Micro-biome

Answer: (d)

184. Medical genetics is the branch of medicine that involves the diagnosis and management of _____ in specific.

(a) hereditary disorders

(b) functional disorders

(c) visual disorders

(d) biological disorders

Answer: (a)

185. There are multiple sources of genetic variation, including:

(a) Heterozygosity

(b) Mutation and genetic recombination

(c) Gene diversity

(d) Alleles per locus

Answer: (b)

186. This is the science that investigates how a variety of interacting processes generate an organism's heterogeneous shapes, size and structural features.

(a) Developmental zoology

(b) Developmental analogy

(c) Developmental psychology

(d) Developmental biology

Answer: (d)

187. This is an exceptionally useful genetic model used for the study of simple and complex molecular, cellular and evolutionary underpinnings of behaviour.

(a) Drosophila

(b) Gene

(c) Transgenesis

(d) Zebrafish

Answer: (a)

188. Which of the following is the subfield of genetics devoted to the study of bacteria that are subtly different from eukaryotic genetics, while bacteria still serve as a good model for animal genetic studies?

(a) Bacterial cryogenics

(b) Bacterial statistics

(c) Bacterial genetics

(d) Bacterial informatics

Answer: (c)

189. A fungus is any member of the group of eukaryotic organisms that includes microorganisms such as _____ and _____, as well as the more familiar mushrooms.

(a) Lex; molds

(b) Lex; YACC

(c) Yacks; molds

(d) Yeasts; molds

Answer: (d)

190. Which of the following amino acids is NOT hydrophobic?

(a) Serine

(b) Leucine

(c) Methionine

(d) Phenylalanine

Answer: (a)

191. Which of the following is the altered function of Subtilisin protein?

(a) Tolerates loss of structural disulfide bridge.

(b) Ten-fold increase of half-life at 90 deg C in thermostability.

(c) Tolerates loss of stabilizing divalent cations.

(d) Preferential formation of heterodimers.

Answer: (c)

192. The characteristics of Endospores is/are:
1. non-reproductive structure 2. non-resistant to UV and Gama radiation 3. resistant to temperature and starvation 4. commonly found in soil and water

(a) 1, 2 and 3

(b) 2, 3 and 4

(c) 1, 3 and 4

(d) All 1, 2, 3 and 4

Answer: (c)

193. The DNA chain is _____ Angstroms wide in si

(a) 22 to 26

(b) 10 to 14

(c) 30 to 36

(d) 40 to 50

Answer: (a)

194. Immunoglobulin A is predominantly found in:
1. saliva
2. colostrum
3. tears

(a) Both 1 and 2

(b) Both 1 and 3

(c) Both 2 and 3

(d) All 1, 2 and 3

Answer: (d)

195. Which of the following are applications of bioinformatics?
A. Develop new and better drugs
B. find the function of a new protein C. find the genes unique to human

(a) Only A
(b) Only B
(c) Both A and B
(d) All A, B and C

Answer: (d)

196. Which of the following is TRUE of non-Histones?

(a) Commonly known as packing proteins.
(b) Main structural proteins found in eukaryotic cells.
(c) Bound to DNA along most of its length.
(d) Linked with gene regulation and other functions of chromatin.

Answer: (d)

197. The moderately repetitive DNA sequences within eukaryotic chromosomes includes:
1. tandem repeats
2. interspersed retrotransposons

(a) Only 1
(b) Only 2
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (c)

198. What is the CORRECT order of the new d[illegible]velopment process? a. Validation
b. clinical trials
c. approval
d. discovery
e. pre-discovery

(a) e, d, a, b, c
(b) d, e, b, a, c
(c) c, e, d, a, b
(d) a, b, e, d, c

Answer: (a)

199. The features of Homeotic clusters, the human hox gene is/are: i. There are 4 homeotic clusters- A, B, C and D ii. Each cluster is located on a different chromosome iii. Each homeotic cluster consists of 11 homeotic

(a) Only ii
(b) Both i and ii
(c) Both ii and iii
(d) All i, ii and iii

Answer: (b)

200. Which of the following is NOT an application of Embryo culture?

(a) Clonal propagation

(b) Recovery of distant hybrids

(c) Shortening of breeding cycle

(d) Overcoming dormancy

Answer: (a)

Answer key

Answer key from the Delhi Subordinate Services Selection Board's official answer key for this sitting. "—" means the key gave none.

General Ability

1	**(d)**	2	**(a)**	3	**(b)**	4	**(c)**	5	**(b)**	6	**(b)**
7	**(a)**	8	**(c)**	9	**(d)**	10	**(b)**	11	**(c)**	12	**(a)**
13	**(d)**	15	**(a)**	16	**(a)**	19	**(b)**				

General Awareness

21	**(b)**	22	**(c)**	23	**(a)**	24	**(a)**	25	**(c)**	26	**(b)**
27	**(d)**	28	**(b)**	29	**(a)**	30	**(c)**	31	**(a)**	32	**(a)**
33	**(c)**	34	**(b)**	35	**(c)**	36	**(a)**	37	**(a)**	38	**(a)**
39	**(a)**	40	**(c)**								

Arithmetic Ability

41	**(b)**	42	**(c)**	43	**(b)**	44	**(d)**	45	**(d)**	46	**(c)**
47	**(c)**	48	**(d)**	49	**(a)**	50	**(b)**	51	**(a)**	52	**(b)**
53	**(a)**	54	**(c)**	55	**(d)**	56	**(a)**				

General English

61	**(b)**	62	**(c)**	65	**(c)**	66	**(b)**	67	**(d)**	68	**(a)**
69	**(b)**	70	**(c)**	71	**(d)**	72	**(b)**	73	**(c)**	74	**(a)**
75	**(b)**	77	**(b)**	79	**(c)**						

Discipline1

101	**(a)**	102	**(d)**	103	**(c)**	104	**(c)**	[illegible]	**(d)**	106	**(d)**
107	**(b)**	108	**(c)**	109	**(c)**	110	**(d)**	111	**(d)**	112	[illegible]3 **(a)**
114	**(b)**	115	**(b)**	116	**(c)**	117	**(a)**	118	**(c)**	119	**(d)**
120	**(a)**										

Discipline2

121	**(b)**	122	**(c)**	123	**(b)**	124	**(d)**	125	**(a)**	126	**(c)**
127	**(c)**	128	**(d)**	129	**(b)**	130	**(d)**	131	**(c)**	132	**(b)**
133	**(c)**	134	**(a)**	135	**(b)**	136	**(c)**	137	**(d)**	138	**(b)**
139	**(d)**	140	**(a)**								

Discipline3

141	**(d)**	142	**(b)**	143	**(d)**	144	**(b)**	145	**(b)**	146	**(c)**
147	**(a)**	148	**(d)**	149	**(d)**	150	**(b)**	151	**(c)**	152	**(c)**
153	**(b)**	154	**(b)**	155	**(d)**	156	**(b)**	157	**(b)**	158	**(d)**
159	**(a)**	160	**(b)**								

Discipline4

161	**(c)**	162	**(c)**	163	**(b)**	164	**(a)**	165	**(d)**	166	**(b)**
167	**(d)**	168	**(b)**	169	**(c)**	170	**(b)**	171	**(c)**	172	**(b)**
173	**(c)**	174	**(a)**	175	**(b)**	176	**(c)**	177	**(b)**	178	**(d)**
179	**(b)**	180	**(d)**								

Discipline5

181	**(d)**	182	**(a)**	183	**(d)**	184	**(a)**	185	**(b)**
186	**(d)**	187	**(a)**	188	**(c)**	189	**(d)**	190	**(a)**
191	**(c)**	192	**(c)**	193	**(a)**	194	**(d)**	195	**(d)**
196	**(d)**	197	**(c)**	198	**(a)**	199	**(b)**	200	**(a)**