PREVIOUS YEAR PAPER

DSSSB Laboratory Assistant (HRD Quality Control) 2021 — 25 September 2021, Shift 1

DSSSB Other Posts · 25 September 2021 · Shift 1

162 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: 38 (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 25 September 2021, Shift 1. 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-laboratory-assistant-hrd-quality-control-25-sep-shift-1/

General Ability

1. Out of the given options, three are similar in a certain manner. However, one option is NOT like the other three. Select the option which is different from the rest.

(a) MNOP
(b) ACDE
(c) GHIJ
(d) UVWX

Answer: (b)

2. Find the next term in the following series.
AJK, DLM, GNO, ?

(a) PQH
(b) JPQ
(c) APQ
(d) GPQ

Answer: (b)

3. Out of the given options, three are similar in a certain manner. However, one option is NOT like the other three. Select the option which is different from the rest.

(a) Herd
(b) Colony
(c) Army
(d) Solitary

Answer: (d)

4. Find a pair which has the same relation as the given pair. bus and train

(a) sun and moon
(b) spoon and fork
(c) cap and belt
(d) light and dark

Answer: (b)

5. Select the option that is related to the third term on the same basis as the second term is related to the first term.
ASDQ : QSDA :: QRTY : ?

(a) YTRQ
(b) RTYQ
(c) QYTR
(d) YRTQ

Answer: (d)

6. In a certain code if EQUALITY is written as QELIUAYT, then LAUGHTER will be written as:

(a) ALGUTHRE
(b) ALHTUGRE
(c) UALHGRET
(d) GLUARHTE

Answer: (b)

7. In a certain code language, if TRAIN is coded as 79261813 and SHIP as 8191811 then what would be the code for TAXI ?

(a) 713862
(b) 726318
(c) 786321
(d) 768312

Answer: (b)

8. B is the only daughter of Y. Z is the father of Y and X is the daughter of Y's son M. How is B related with X?

(a) Sister
(b) Mother's Sister
(c) Father's Brother's Wife
(d) Father's sister

Answer: (d)

9. L, M, N, O, P, Q and R are the names of seven boys standing in a row in the school assembly. It is known that:
1. L is to the immediate right of M and third to the right of N.
2. P is standing at the end of the row.
3. O is standing adjacent to L and Q.
Who is standing at the second position of the row starting from N ?

(a) R
(b) O
(c) L
(d) M

Answer: (a)

10. In the question given below, an assertion is given, followed by a reason. You have to decide whether the assertion is true, reason is true or both are true and if the reason is the correct explanation of the assertion.
Assertion- Eating blueberries and fish foods help cure diabetes.
Reason- Right diet is a great method to cure diabetes.

(a) Assertion is true, reason is false

(b) Assertion is false, reason is true

(c) Both assertion and reason are true, reason is the correct explanation of the assertion.

(d) Both assertion and reason are true, reason is not the correct explanation of the assertion

Answer: (c)

11. In the question given below, a statement is given, followed by two arguments I and II. You have to consider the statement to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given arguments is strong.
Statement- Students having less than 50% aggregate of marks in the current year of study should be debarred from promotion to next year.
Argument I-It would take away the ultimate chance of improvement in students.
Argument II- This would make students serious towards the studies.

(a) Only argument I is strong

(b) Only argument II is strong

(c) Neither I nor II is strong

(d) Both argument I and II are strong

Answer: (d)

12. Select the option that is related to the third term the same basis as the second term is related to the first term.
13 : 247 :: 19 : ?

(a) 265

(b) 360

(c) 361

(d) 562

Answer: (c)

13. Write the number which completes this series:
6, 24, 60, 120, 210, _____.

(a) 378

(b) 294

(c) 420

(d) 336

Answer: (d)

15. J is walking towards West and turns 360 degrees. Find the direction in which J would be walking now.

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

Answer: (b)

16. A man started walking from his house and moved 8m to north and then turned to east and walked another 15m. How far he is from his starting point?

(a) 8m
(b) 15m
(c) 17m
(d) 23m

Answer: (c)

General Awareness

21. Which of the following is a type of music?

(a) Tappa
(b) Onam
(c) Hemis
(d) Pongal

Answer: (a)

22. Between the period of ninth and eleventh c es in Bengal (including Bangladesh) and Bihar, the sculptures style is known as _____.

(a) clay firing
(b) satavahana art
(c) yakshi
(d) pala

Answer: (d)

23. When a company reports a _____, it means that its economic profit is equal to zero, which is the minimum amount that justifies why the business is still in operation.

(a) normal profit
(b) super-normal profit
(c) shut down point
(d) break even point

Answer: (a)

24. Most distinguishing characteristic of perfect competition is _____.
    (a) Partial Bargaining
    (b) Equal opportunity
    (c) Price taking Behaviour
    (d) Price does not matter
    Answer: (c)

25. The poorest conductor of heat:
    (a) Lead
    (b) Iron
    (c) Calcium
    (d) Graphite
    Answer: (a)

26. A lustrous Non-Metal is:
    (a) Argon
    (b) Chlorine
    (c) Xenon
    (d) Iodine
    Answer: (d)

27. The second trophic level in food chain is occupied _____.
    (a) omnivores
    (b) herbivores
    (c) carnivores
    (d) parasitic
    Answer: (b)

28. The one of the highest peaks of the western ghats at a (2,695metres) elevation above sea level is _____.
    (a) Dhaulagiri
    (b) Kamet
    (c) Annapurna
    (d) Anai Mudi
    Answer: (d)

29. Planetary wind is also known as _____.
    (a) Seasonal Wind
    (b) Primary wind
    (c) Monsoon Wind
    (d) Pressure wind
    Answer: (b)

30. How many times Mahmud of Ghazni invaded India?
    (a) 17 times
    (b) 15 times
    (c) 19 times
    (d) 13 times
    Answer: (a)

31. Who among the following was the first Sultan of Delhi sultanate?
    (a) Muhammad Ghori
    (b) Qutb al-Din Aibak
    (c) Mahmud Ghaznavi
    (d) Babur
    Answer: (b)

32. Who was the Labour Minister of India in the first cabinet after Independence ?
    (a) Mohan Lal Saxena
    (b) John Mathai
    (c) Jagjivan Ram
    (d) Amrit Kaur
    Answer: (c)

33. When was the Hunter Commission appointed?
    (a) 1882
    (b) 1857
    (c) 1942
    (d) 1946
    Answer: (a)

34. Which of the following is not a 'Literary Award' ?
    (a) The Rabindra Puraskar
    (b) The Dronacharya Award
    (c) The Vyas Samman
    (d) The Hindu Literary Prize
    Answer: (b)

35. Which Indian Economist received the Humboldt Research Award 2021?
    (a) Amartya Sen
    (b) Arvind Subramanian
    (c) Kaushik Basu
    (d) Raghuram Rajan
    Answer: (c)

36. How many Lok Sabha Seats were there in the first general election in India?
    (a) 489
    (b) 540
    (c) 543
    (d) 500
    Answer: (a)

37. The total numbers of members in the Constituent Assembly after partition of India in 1947 was _____.
    (a) 300
    (b) 299
    (c) 250
    (d) 489
    Answer: (b)

38. Viswanathan Anand is related to which sport or game?
    (a) Table tennis
    (b) Hockey
    (c) Chess
    (d) Cricket
    Answer: (c)

39. Copa America is a championship tournament related to which sport?
    (a) Polo
    (b) Badminton
    (c) Volleyball
    (d) Football
    Answer: (d)

40. Who among the following won the Wimbledon Tennis men's singles title 2021?
    (a) Roger Federer
    (b) Novak Djokovic
    (c) Pete Sampras
    (d) Rafael Nadal
    Answer: (b)

Arithmetic Ability

41. The sum of two numbers is 14 and their product is 45. What is the sum of the reciprocals of the numbers?
    (a) 45/12
    (b) 14/45
    (c) 13/24
    (d) 25/17
    Answer: (b)

42. A number when divided by 8 leaves a remainder 5. When square of the number is divided by 8, the remainder is_____.

(a) 3
(b) 4
(c) 2
(d) 1

Answer: (d)

43. The average of even natural numbers up to 500 is _____.

(a) 250
(b) 251
(c) 249
(d) 252

Answer: (b)

44. A batsman make a score of 60 runs in his 12th innings and there by increasing his average by 2 runs. Find his average runs after his 12th innings?

(a) 40
(b) 38
(c) 56
(d) 48

Answer: (b)

45. The weight of a girl was 40 kg. But it was misre as 44 kg. Find the error percentage?

(a) 10.5%
(b) 10.25%
(c) 12.5%
(d) 10%

Answer: (d)

46. The population of a town increases 10% annually. If its present population is 50,00,000. Find its population after 2 years?

(a) 6050000
(b) 6500000
(c) 6150000
(d) 6000000

Answer: (a)

47. Raju bought a washing machine for Rs. 10000 and sold it for Rs. 6000. Find the loss percentage.

(a) 25%
(b) 40%
(c) 45%
(d) 47.5%

Answer: (b)

48. If goods be purchased for Rs.960 and one-fourth be sold at a loss of 20%, at what gain percent should be the remainder be sold so as to gain 20% on the whole transaction?

(a) 35%
(b) 33.33%
(c) 35.33%
(d) 32.12%

Answer: (b)

49. If A : B = 5 : 9 and B : C = 3 : 7 then A : B : C is _____.

(a) 5:27:21
(b) 15:3:7
(c) 5:9:21
(d) 15:19:7

Answer: (c)

50. Two numbers are in the ratio 5 : 3. If 12 is subtracted from each number, then they are in the ratio of 2 : 1. Then the smaller number is _____.

(a) 60
(b) 12
(c) 28
(d) 36

Answer: (d)

51. At what rate will Rs. 8000 amount to Rs.12000 ir years at simple interest?

(a) 12%
(b) 15.5%
(c) 12.5%
(d) 13%

Answer: (c)

52. The difference between simple interest and compound interest in a sum of money at 5% p.a for 3 years is Rs.915. The sum is Rs _____.

(a) 80,000
(b) 1,50,000
(c) 1,20,000
(d) 1,25,000

Answer: (c)

53. A man who covers one-third of his journey at a speed of 30 km/hr and the next one third at 60 km/hr and the last part at 10 km/hr. What is the average speed of his journey (in km/hr)?

(a) 20
(b) 24
(c) 30
(d) 28

Answer: (a)

54. Two trains running in the same direction at 30 kmph and 12 kmph completely pass one another in 1 minute. If the length of the first train is 125 metres, the length of second train is _____m.

(a) 185

(b) 149

(c) 175

(d) 160

Answer: (c)

55. Raj completed the school project in 10 days. How many days will Arun take to complete the same work if he is 25% more efficient than Raj?

(a) 8

(b) 12

(c) 16

(d) 6

Answer: (a)

56. A and B can do a bit of work in 15 days. B and C can do it in 12 days while C and A can do it in 20 days. How long will they complete it working together? Additionally, how long can C alone do it?

(a) 10 days, 30 days

(b) 15 days, 20 days

(c) 20 days, 40 days

(d) 10 days, 50 days

Answer: (a)

57. A right triangle with sides 6 cm, 8 cm a[illegible] cr[illegible] rotated the side of 6 cm to form a cone. The volume of the cone so formed is _____ cubi[illegible]

(a) 96π

(b) 96

(c) 96/π

(d) 96π 3

Answer: (a)

General English

61. The sentence below has been divided into three parts. Select the part of the sentence that has an error. If the sentence has no error, select the option 'No Error'.
The animals were/ conditioned to respond/ to an auditory stimuli.

(a) The animals were

(b) conditioned to respond

(c) to an auditory stimuli.

(d) No Error

Answer: (c)

62. The sentence below has been divided into three parts. Select the part of the sentence that has an error. If the sentence has no error, select the option 'No Error'.
The shield is named after New Zealand's Sir/ Edmund Hillary, the first man to scale the Mount Everest,/ who died in Auckland on January 11 2008.

(a) The shield is named after New Zealand's Sir

(b) Edmund Hillary, the first man to scale the Mount Everest,

(c) who died in Auckland on January 11, 2008.

(d) No Error

Answer: (b)

63. Select the word segment that substitutes (replaces) the bracketed word segment correctly and completes the sentence meaningfully. Select the option 'no correction required' if the sentence is correct as given.
The company has come (under intense scrutiny because of it's environmental) record.

(a) across intense scrutiny for it's environmental

(b) through intense scrutiny because of its environmental

(c) under intense scrutiny because of its environmental

(d) No correction required

Answer: (c)

64. Select the word segment that substitutes (replaces) the bracketed word segment correctly and completes the sentence meaningfully. Select the option 'no correction required' if the sentence is correct as given.
Histopathologic examinations (of the tissue shows a necrobiotic granuloma with) associated histiocytic infiltration.

(a) of the tissues show a necrobiotic granuloma with

(b) of the tissues shows a necrobiotic granuloma from

(c) of the tissue shows necrobiotic granuloma by

(d) No correction required

Answer: (a)

65. Fill in the blank with the most appropriate choice:
It was a breathtakingly _____ solution to an intractable problem, and the results were to be breath-taking as well.

(a) conscious

(b) malicious

(c) tenacious

(d) audacious

Answer: (d)

66. Fill in the blank with the most appropriate choice:
I like the idea of dark banking transactions taking place in towns like Miltown Malbay, awash with transnational _____.

(a) cockatrice

(b) avarice

(c) aver

(d) ascetic

Answer: (b)

67. Some parts of a sentence have been jumbled up, and labelled P, Q, R and S. Select the option that gives the correct sequence in which these parts can be rearranged to form a meaningful and grammatically correct sentence.
We were both broke
P. and working pub
Q. could abate my
R. appetite for conceiving
S. shifts but nothing
low budget film ideas.

(a) RPSQ

(b) RQSP

(c) PSQR

(d) PRSQ

Answer: (c)

68. The question below consist of a set of labelled [illegible]tences. Out of four options given, select the most logical order of the sentences which [illegible] a [illegible]agraph.
The first emperor of the Mughal Empire was B[illegible] direct descendant of Genghis Khan.
P. Following Genghis, in 1531 came Babur; he was responsible for establishing and improving trade relations with Persia and Europe.
Q. Babur even outlawed killing cows as a sign of respect for Hindus.
R. He was responsible for moving the empire into India.
S. Here, he ruled with religious tolerance from 1526 to 1530.
He is directly responsible for spreading Persian cultural influence throughout the empire.

(a) RPSQ

(b) RQSP

(c) RPQS

(d) RSQP

Answer: (d)

69. Select the word that is opposite in meaning (ANTONYM) to the word given below untenable

(a) unsound

(b) mundane

(c) logical

(d) disparity

Answer: (c)

70. Select the word that is similar in meaning (SYNONYM) to the word given below tortuous

(a) circuitous

(b) untwisted

(c) amusing

(d) repudiate

Answer: (a)

71. Four words are given, out of which only one word is spelt correctly. Choose the correctly spelt word.

(a) plethora

(b) plethra

(c) pleothora

(d) plathora

Answer: (a)

72. Four words are given, out of which only three words are spelt correctly. Choose the one spelt incorrectly.

(a) sanction

(b) saitate

(c) propriety

(d) salubrious

Answer: (b)

73. Select the most appropriate meaning of the give diom.
A penny saved is a penny earned

(a) Not under firm control, mismanaged

(b) To be easily successful

(c) By not spending money, you are saving money

(d) Overwhelmed by what is happening in the moment

Answer: (c)

74. Select the most appropriate meaning of the given idiom.
A wolf in sheep's clothing

(a) When you already have it good and get something on top of what you already have

(b) To have something secured

(c) A dangerous person pretending harmless

(d) A secret policy for an evil purpose

Answer: (c)

75. Select the most appropriate 'one word ' for the expressions given below.
A large gathering of people of a particular type.

(a) Bonsai
(b) Bevy
(c) Bounty
(d) Brood

Answer: (b)

76. In which sea did Estonia sink?

(a) Caribbean
(b) Arabian
(c) Baltic
(d) Caspian

Answer: (c)

77. What does the line "The final death toll amounted to 912 souls" tell us?

(a) The number of people who died on the ship.
(b) The number of people who were onboard.
(c) The number of people who survived.
(d) The number of lifeboats of the ship.

Answer: (a)

78. What kind of sea vessel was Estonia?

(a) Container ship
(b) Passenger and car ferry
(c) Bulk carriage
(d) Naval ship

Answer: (b)

Discipline1

101. The probability of a man A winning car race is 1/3 and the probability of a man B winning the car race is 1/7. What is the probability that one of the car wins?

(a) 10/21
(b) 11/20
(c) 11/21
(d) 10/20

Answer: (a)

102. A moving object in plane has co-ordinates x = 5, y = 2 and has components of speed x = 3 m/s and y = 4 m/s at some instant of time. Find the components of speed in polar co-ordinates r.

(a) 5.6 m/s

(b) 4.27 m/s

(c) 5.01 m/s

(d) 4.51 m/s

Answer: (b)

104. The equation for moment of inertia of a uniform rod about an axis through its centre and perpendicular to its length is:

(a) Ml 2 /12

(b) Ml 2 /6

(c) Ml 2 /11

(d) Ml 2 /13

Answer: (a)

105. Find the current density in a wire of diameter 0.1cm in which current of 5A flows.

(a) 6.36 x 10 6 Am¯ 2

(b) 5.3 x 10 6 Am¯ 2

(c) 4.4 x 10 6 Am¯ 2

(d) 3.3 x 10 6 Am¯ 2

Answer: (a)

106. _____ possess magnetic moment for zero ap ed field.

(a) Diamagnet

(b) Ferromagnet

(c) Paramagnet

(d) Earthmagnet

Answer: (b)

107. The relation between particle velocity(u) and wave velocity(v) is given by the relation.

(a) U = - v dy/dx

(b) U = v x

(c) U = dy/dx

(d) U = - dy/dx

Answer: (a)

108. The transfer of power from generator to load is maximum due to.

(a) Transmission gain

(b) Impedance matching

(c) Coupling impedance

(d) Transverse impedance

Answer: (b)

109. $\nabla^2\phi=0$ is the _____ equation.

(a) Laplace's

(b) Poisson's

(c) Heat flow

(d) Wave

Answer: (a)

110. At a simple discontinuity the over shooting of Fourier series is called as _____.

(a) Gibb's Phenomenon

(b) Parseval's Phenomenon

(c) Fourier Phenomenon

(d) Gauss phenomenon

Answer: (a)

112. The number of molecules in 2 cubic meter of gas at 1 atm and 25° C is _____.

(a) 5.1 × 10 25

(b) 4.86 × 10 25

(c) 3 × 10 25

(d) 2.5 × 10 25

Answer: (b)

113. The binary equivalent of 20 is _____.

(a) (10100) 2

(b) (10011) 2

(c) (10101) 2

(d) (10000) 2

Answer: (a)

114. If the feed back energy is out of phase with the input signal and opposes it. Such amplifier is called as _____.

(a) Positive feedback amplifier

(b) Negative feedback amplifier

(c) RF amplifier

(d) Operational amplifier

Answer: (b)

116. A set which consists entirely of interior points is said to be _____.

(a) a Closed set

(b) an Open set

(c) a Compact set

(d) an Unbounded set

Answer: (b)

117. Rest energy of an electron is _____.

(a) 1.02 MeV

(b) 0.51 MeV

(c) 2.00 MeV

(d) 0.65 MeV

Answer: (b)

118. Rest mass of photon is _____.

(a) 0 kg

(b) 1 kg

(c) 2.5 kg

(d) 3 kg

Answer: (a)

119. The maximum rate of change in output voltage per unit of time is called as_____.

(a) CMRR

(b) Voltage gain

(c) Slew rate

(d) Transconductance

Answer: (c)

120. The de-Broglie wavelength associated with a 20 of ball with the velocity of 20m/s is _____.

(a) 16.57×10 -34 m

(b) 20×10 -34 m

(c) 25×10 -34 m

(d) 10.99×10 -34 m

Answer: (a)

Discipline2

121. _____ is the velocity with which the energy in the group is transmitted.

(a) Average velocity

(b) Wave velocity

(c) Group velocity

(d) Intantaneous velocity

Answer: (c)

122. The total magnetic flux through a surface surrounding a magnetic dipole is always _____.

(a) Maximum

(b) Minimum

(c) Constant

(d) Zero

Answer: (d)

123. The cross product of electric field vector and magnetic field vector is known as _____.

(a) Poynting vector

(b) Null vector

(c) Orthogonal vector

(d) Co-initial vector

Answer: (a)

124. According to Wein's displacement law, the peak in the black body spectrum shifts to shorter wavelength as the temperature

(a) Increases

(b) Decreases

(c) Constant

(d) becomes zero

Answer: (a)

125. The particles which obey Pauli -exclusion principle are called as

(a) Boson

(b) Photon

(c) Electrons

(d) Quanta

Answer: (c)

126. Transition which belongs to the Lyman series of drogen atom will be:

(a) n = 4 to n = 1

(b) n = 4 to n = 2

(c) n = 5 to n = 2

(d) n = 3 to n = 2

Answer: (a)

128. Conversion of a matter directly from solid to gas is termed as:

(a) Condensation

(b) Sublimation

(c) Fusion

(d) Vaporization

Answer: (b)

129. At high temperature and low pressure condition the Van der Waal equation will be:

(a) $(P+a/V^2)V=RT$

(b) $PV=RT$

(c) $P(V-b)=RT$

(d) $(P+a/V^2)(V-b)=RT$

Answer: (b)

130. Which reagent given in the options can distinguish between 1-butyne and 2- butyne?

(a) alc.KOH

(b) HCl

(c) NaNH2

(d) Tollens reagent

Answer: (d)

131. Which compound will have a bond angle of 180°?

(a) alkane

(b) alkene

(c) alkyne

(d) cycloalkane

Answer: (c)

132. Which of the following is true for cyclic process?

(a) dE = 0 ; dH = 0

(b) dE > 0 ; dH < 0

(c) dE <0 ; dH > 0

(d) Cannot predict

Answer: (a)

133. When there is no increase or decrease in the inte l energy of the system then the first law of thermodynamics can be described as:

(a) q = -w

(b) $\Delta E = q + w$

(c) $w = q + \Delta E$

(d) $q = \Delta E - w$

Answer: (a)

135. The correct order of acid character of the following inorganic acid will be:

(a) HClO<HClO <HClO <HClO 2 3 4

(b) HClO <HClO<HClO <HClO 2 3 4

(c) HClO <HClO <HClO <HClO 4 3 2 4

(d) HClO<HClO <HClO <HClO 4 2 3

Answer: (a)

136. Find the correct formula for chloroform:

(a) CHCl3

(b) CaOCl3

(c) CH3Cl

(d) CaOCl

Answer: (a)

137. Name of reaction in which acid chloride is reduced to aldehyde in the presence of palladium on support of barium sulphate:

(a) Cannizzaro reaction

(b) Rosenmund's reduction

(c) Clemmensen Reduction

(d) Meerwein-Ponndorf-Verley reduction

Answer: (b)

138. What will be the oxidation state of I in H IO ¯ ?
4 6

(a) 4

(b) 5

(c) 6

(d) 7

Answer: (d)

139. Which ligand in the given options is a flexidentate ligand ?

(a) NO ¯ 3

(b) SCN^-

(c) CNO^-

(d) OH^-

Answer: (a)

140. Which of the complex will be highly distorted:

(a) [Cr(H O)] 2+ 2 6

(b) [Cr(H O)] 3+ 2 6

(c) [Mn(H O)] 2+ 2 6

(d) [Fe(H O)] 3+ 2 6

Answer: (a)

Discipline3

141. The _____, which can distinguish primary, secondary, and tertiary amines, is based upon sulfonamide formation.

(a) Hinsberg test

(b) Lucas Test

(c) Ring Test

(d) Baker Mulliken's Test

Answer: (a)

142. Nitroethane when reacts with zinc dust and ammonium chloride, it yields:

(a) Ethanamine

(b) N-ethylhydroxylamine

(c) ethyl nitrile

(d) Nitromethane

Answer: (b)

144. Choose correct statement about the Collision Theory:

(a) All collisions are effective

(b) All collisions are violent

(c) Fraction of collisions form the product which have sufficient amount of energy

(d) All collisions forms product

Answer: (c)

145. Which of the condition is true for working of electrolytic cell?

(a) $\Delta G>0, E=0$

(b) $\Delta G<0, E=0$

(c) $\Delta G>0, E<0$

(d) $\Delta G=0, E=0$

Answer: (c)

146. Which type of isomerism is present between glu e and fructose?

(a) Chain isomerism

(b) Optical isomerism

(c) Position isomerism

(d) Functional group isomerism

Answer: (d)

147. If a principal quantum number of the shell (n)=3, then the number of the orbitals in the shell will be:

(a) 12

(b) 5

(c) 6

(d) 9

Answer: (d)

148. Which complex will have the highest CO stretching frequency?

(a) $[Ti(CO)_6]^{2-}$

(b) $[V(CO)_6]^{-}$

(c) $[Cr(CO)_6]^{2-}$

(d) $[Fe(CO)_6]^{2+}$

Answer: (d)

149. Find the value of x in the Co complex [Co(CO)]X, considering it obeys 18 electron rule.
3

(a) -1
(b) -2
(c) -3
(d) -4

Answer: (c)

150. Which of the following radiations will have the lowest frequency?

(a) IR radiation
(b) Microwaves
(c) UV radiation
(d) Radio waves

Answer: (d)

151. Which of the following types of chlorophylls are present in green plants?

(a) Chlorophyll a and b
(b) Chlorophyll a and c
(c) Chlorophyll a and d
(d) Chlorophyll b and c

Answer: (a)

152. Enzymes which catalyse the conversion of fats carbohydrates are present in:

(a) peroxisome
(b) glyoxysome
(c) liposome
(d) microsome

Answer: (b)

153. Which of the following is the correct sequence of stages in the cell cycle?

(a) M, G1, G2, S
(b) G1, S, M, G2
(c) G1, S, G2, M
(d) G1, G2, S, M

Answer: (c)

154. Rhizopus or bread mould represents a _____ type of fungus.

(a) saprophytic
(b) parasitic
(c) symbiotic
(d) autotrophic

Answer: (b)

155. Which of the following nutrients is mobilised by Mycorrhizal fungi from the soil to the roots of plants?

(a) Manganese
(b) Potassium
(c) Sulphur
(d) Phosphorus

Answer: (d)

156. Which of the following compounds is NOT seen in bryophytes?

(a) Cellulose
(b) Lignin
(c) Chlorophyll
(d) Amino acids

Answer: (b)

157. In the dicot plants, cambium present between primary xylem and primary phloem is called:

(a) interfascicular cambium
(b) vascular cambium
(c) unifacial cambium
(d) cork cambium

Answer: (b)

158. Abnormal secondary growth is found in:

(a) Dracaena
(b) Cucurbita
(c) Triticum
(d) Helianthus

Answer: (a)

159. Which of the following methods is used to determine the age of the tree?

(a) Number of branches
(b) Number of leaves
(c) Stem girth
(d) Number of annual rings in the stem

Answer: (d)

160. Castor oil is extracted from which of the following plants?

(a) Brassica campestris
(b) Ricinus communis
(c) Sesamum indicum
(d) Linum usitatissimum

Answer: (b)

Discipline4

161. A mutation in which deletion or insertion of one or a few nucleotides occurs is called:

(a) transition
(b) transversions
(c) frameshift mutation
(d) missense mutation

Answer: (c)

162. Which of the following types of enzymes is required to unwind the two strands during DNA replication?

(a) Primase
(b) Topoisomerase
(c) DNA polymerase
(d) Helicase

Answer: (d)

163. Initiation of a polypeptide chain is brought about by which of the following amino acids?

(a) Methionine
(b) Tyrosine
(c) Leucine
(d) Isoleucine

Answer: (a)

164. Which of the following changes occur at high (>10) in DNA?

(a) The H bonds between the bases of two strands break.
(b) The glycosidic bonds between sugar and base break.
(c) The phosphodiester bonds break.
(d) The DNA precipitates.

Answer: (a)

166. Spraying pesticides on plants is least dangerous to which of the following types of organisms?

(a) Herbivores
(b) Second level carnivores
(c) First level carnivores
(d) Producers

Answer: (d)

167. Which of the following systems of classification was used by Linnaeus?

(a) Natural system
(b) Artificial system
(c) Phylogenetic system
(d) Evolutionary system

Answer: (b)

169. Where is the embryo sac located in angiosperms?

(a) Seed

(b) Embryo

(c) Endosperm

(d) Ovule

Answer: (d)

170. If in an angiosperm, the male parent plant is diploid and the female parent plant is tetraploid, the ploidy of the endosperm will be:

(a) pentaploid

(b) haploid

(c) triploid

(d) tetraploid

Answer: (a)

171. Dormancy of seeds may arise due to high levels of which of the following hormones?

(a) Auxin

(b) Abscisic acid

(c) Gibberellic acid

(d) Cytokinin

Answer: (b)

172. Oxygen evolved during photosynthesis arises d .o the breakdown of:

(a) water

(b) chlorophyll

(c) carbon dioxide

(d) sugar

Answer: (a)

173. The sequence of intermediates in the pathway of photorespiration is:
1. Phosphoglycolate
2. Glyoxylate
3. Serine
4. Glycine

(a) 1, 2, 3, 4

(b) 1, 2, 4, 3

(c) 2, 1, 3, 4

(d) 2, 1, 4, 3

Answer: (b)

174. Movement of water from cell to cell through the cytoplasm occurs through:

(a) plasmodesmata
(b) membranes
(c) sieve tubes
(d) tracheids

Answer: (a)

175. In plant tissue culture technology, organogenesis involves:

(a) culture of plant organs
(b) formation of plants from callus cultures
(c) meristem culture
(d) formation of cells from protoplasts

Answer: (b)

176. Which of the following is a eukaryotic organism whose cells contain a nucleus but is not an animal, plant, or fungus?

(a) A protist
(b) A protozoa
(c) A monera
(d) A parasite

Answer: (a)

177. Which of the following branches of science deal[illegible]ith the principles describing the cycling and recycling of organic and inorganic substances alon[illegible]ith interactions and inter-relationships among the organisms and between organisms and[illegible] ph[illegible]al environment?

(a) Oncology
(b) Topology
(c) Ecology
(d) Biology

Answer: (c)

178. Which of the following are the smallest units of life and hence are often referred to as the 'building blocks of life'?

(a) Bio-cons
(b) Species
(c) Neurons
(d) Cells

Answer: (d)

179. The smallest known cells are a group of tiny bacteria called:

(a) phloem
(b) Phytoplasmas
(c) mycobacterium
(d) mycoplasmas

Answer: (d)

180. With reference to the chordates, state whether the following statements are true or false.
I. Chordates have three embryonic cell layers.
II. Their nervous system is centralised.

(a) I. True II. False
(b) I. False II. True
(c) I. False II. False
(d) I. True II. True

Answer: (d)

Discipline5

181. The adjustment of an animal's response to changes in the environment are called:

(a) acclimatisation
(b) captaincy
(c) signalling
(d) diversion

Answer: (a)

182. Two systems are involved in co-ordination in animals. These are the _____ and _____ systems.

(a) nervous, neuro
(b) nervous, endocrine
(c) nervous, neuro-chemical
(d) nervous, fuzzy-neural

Answer: (b)

183. Biochemistry or biological chemistry is the study of_____ within and relating to living organisms.

(a) chemical processes
(b) biological processes
(c) mechanical processes
(d) bio-mechanical processes

Answer: (a)

184. A sub-discipline of both chemistry and biology, biochemistry may be divided into three fields, EXCEPT:

(a) structural biology
(b) metabolism
(c) ophthalmology
(d) enzymology

Answer: (c)

185. All mammals have 7 cervical vertebrae, EXCEPT _____ in manatee and _____ in ant bear.

(a) 6, 5
(b) 4, 8
(c) 5, 5
(d) 6, 8

Answer: (d)

186. Which of the following options is NOT a part of various surfaces of the body of vertebrates?

(a) Dorsal
(b) Ventral
(c) Lateral
(d) Torrent

Answer: (d)

187. Which of the following options is NOT a part of various surfaces of the body of vertebrates?

(a) Anterior
(b) Posterior
(c) Median
(d) Mean

Answer: (d)

188. The _____ process can be understood as the maintenance of the overall stability of the physiological processes of the body. It is monitored by the brain and nervous system and regulated by the physiology and activity of individual organs.

(a) hypostasis
(b) allostasis
(c) homeostasis
(d) hyper stasis

Answer: (c)

189. In biochemistry, a _____ is a linked series of chemical reactions occurring within a cell.

(a) digestive scenario
(b) metallic pathway
(c) mechanical pathway
(d) metabolic pathway

Answer: (d)

190. With reference to biochemistry of metabolic processes, the reactants, products, and intermediates of an enzymatic reaction are known as:

(a) metabolites
(b) parasites
(c) electrolytes
(d) stag mites

Answer: (a)

191. Which of the following branches of biology deals with the studies on the composition, structure, and interactions of cellular molecules?

(a) Molecular oncology
(b) Molecular biology
(c) Molecular typography
(d) Molecular monopoly

Answer: (b)

192. The central dogma of molecular biology describes the process in which _____ is transcribed into _____ which is/are then translated into protein.

(a) RNA, DNA
(b) DNA, RNA
(c) DNA, molecules
(d) RNA, metabolites

Answer: (b)

193. Clinical research and medical therapies arising from molecular biology are covered under:

(a) DNA therapy
(b) RNA therapy
(c) gene therapy
(d) metabolic therapy

Answer: (c)

194. A unit of inheritance that usually is directly res sible for one trait or character is called as:

(a) neuron
(b) molecular traits
(c) protein
(d) gene

Answer: (d)

195. Each individual has two _____ for each trait, one comes from the father and the other from the mother.

(a) genes
(b) neurons
(c) molecular traits
(d) protein

Answer: (a)

196. Which of the following phenomena is the central unifying concept in biology?

(a) Upgradation
(b) Evolution
(c) Exploration
(d) Incremental development

Answer: (b)

197. Which of the following is the subfield of biology that studies the evolutionary processes such as natural selection, common descent and speciation that produced the diversity of life on Earth?

(a) Evolutionary networks
(b) Evolutionary neurology
(c) Evolutionary biology
(d) Evolutionary chemistry

Answer: (c)

198. _____ is the underlying genetic basis of a phenotypic trait and its variational properties.

(a) Genetic map
(b) Genome sequencing
(c) Genetic building
(d) Genetic architecture

Answer: (d)

199. In most cases of a metabolic pathway, the product of one enzyme acts as the _____ for the next. However, side products are considered _____ and removed from the cell.

(a) filtrate, waste
(b) substrate, filtrate
(c) superstrate, waste
(d) substrate, waste

Answer: (d)

200. The tail of which of the following animals is opposite to the head and extends past the anus?

(a) Chordates
(b) Protista
(c) Pseudocoelomates
(d) Chariots

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

General Awareness

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

Arithmetic Ability

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

General English

61	**(c)**	62	**(b)**	63	**(c)**	64	**(a)**	65	**(d)**	66	**(b)**	67	**(c)**	68	**(d)**		
69	**(c)**	70	**(a)**	71	**(a)**	72	**(b)**	73	**(c)**	74	**(c)**	75	**(b)**	76	**(c)**		
77	**(a)**	78	**(b)**														

Discipline1

101	**(a)**	102	**(b)**	104	**(a)**	105	**(a)**	106	**(b)**	107	**(a)**	108	**(b)**	109	**(a)**		
110	**(a)**	112	**(b)**	113	**(a)**	114	**(b)**	116	**(b)**	117	**(b)**	118	**(a)**	119	**(c)**		
120	**(a)**																

Discipline2

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

Discipline3

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

Discipline4

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

Discipline5

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