PREVIOUS YEAR PAPER

# DSSSB Laboratory Assistant (Photo) 2021 — 26 September 2021, Shift 2

DSSSB Other Posts · 26 September 2021 · Shift 2

164 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: 36 (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 26 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-laboratory-assistant-photo-26-sep-shift-2/

## General Ability

1. Find the wrong term in the letter-cluster series given below:
EHSP, ILXU, MREZ, QTHE, UXMJ

(a) ILXU
(b) MREZ
(c) QTHE
(d) UXMJ

**Answer: (b)**

2. Find the missing term in the following letter-clust eries given below:
SYG18, AGO27, IOW36, ? , YEM54

(a) QWF45
(b) PWE45
(c) PWF45
(d) QWE45

**Answer: (d)**

3. Select the letter triad from the given options which follows the same relation as shown below.
(TY, YF, DM)

(a) OU, TP, YI
(b) QW, VT, UY
(c) UE, YS, OQ
(d) ZE, EL, JS

**Answer: (d)**

4. Select the related word pair from the given alternatives.
Toyota : Car : : ?

(a) Hero : earphone

(b) Xiaomi : Motorbike

(c) Bajaj : Mobile phones

(d) Samsung : Mobile Phones

**Answer: (d)**

5. If ALZEBRA is written as ZMADCSZ in a certain code, then how is OFFICER written in that code?

(a) NGHHDDS

(b) NGGHCDS

(c) NGGJDDS

(d) NGGHDDS

**Answer: (d)**

6. A is younger than B, B is elder than C, C is younger than A, and D is elder than B. Who is the youngest among A, B, C, and D?

(a) A

(b) B

(c) C

(d) D

**Answer: (c)**

7. In a row of girls, Shilpa is 8th from the left and Re[illegible] is 17th from the right. If they interchange their positions, Shilpa becomes 14th from t[illegible]eft. [illegible]w many girls are there in the row ?

(a) 25

(b) 27

(c) 29

(d) 30

**Answer: (d)**

8. Two statements are followed by two conclusions numbered I and II. You have to consider these statements to be true, even if they seem to be at variance with commonly known facts. Decide which of the given conclusions logically follow/s from the given statement.
Statement:
Some dolls are are toys.
Some toys are children.
Conclusions:
(I) Some toys are doll.
(II) All dolls are toys.

(a) If only I follow

(b) If only II follows

(c) If both I and II follow

(d) If neither I nor II follows

**Answer: (a)**

9. Three statements are followed by two conclusions numbered I and II. You have to consider these statements to be true, even if they seem to be at variance with commonly known facts. Decide which of the given conclusions logically follow/s from the given statement.
Statement:
All suit are shirts.
Some shirts are jeans.
Some jeans are shoes.
Conclusions:
(I) Some shoes are suit.
(II) Some shirt are suits.

(a) If only I follow
(b) If only II follows
(c) If both I and II follow
(d) If neither I nor II follows

**Answer: (b)**

10. Three statements are followed by three conclusions numbered I, II and III. You have to consider these statements to be true, even if they seem to be at variance with commonly known facts. Decide which of the given conclusions logically follow/s from the given statement.
Statement:
Some numbers are keys.
Some keys are plants.
Some plants are trees.
Conclusions:
(I) Some trees are numbers.
(II) No trees are numbers.
(III) All plants are keys.

(a) If only I follow
(b) If only II follows
(c) If only III follows
(d) If either I or II follows

**Answer: (d)**

11. Find the missing term in the series.
128, 64, 64, ?, 192, 480

(a) 156
(b) 96
(c) 180
(d) 154

**Answer: (b)**

12. If $G \geq L = A > N \leq C < E$, which of the following is definitely false?

(a) $N > G$
(b) $N < E$
(c) $G > A$
(d) $G \geq A$

**Answer: (a)**

13. Which two signs should be interchanged to make the following equation correct?
5 + 16 – 4 × 14 ÷ 2 = 59

(a) × and +
(b) ÷ and ×
(c) + and –
(d) ÷ and –

**Answer: (d)**

## General Awareness

21. The fort of Vellore, situated in the present-day state of Tamil Nadu, was built under which of the following?

(a) Vijayanagar Empire
(b) Chalukya Empire
(c) Kakatiya Empire
(d) Lodi Dynasty

**Answer: (a)**

22. The Chhau dance form is a regional dance form of which of the following states?

(a) Maharashtra
(b) Telangana
(c) Odisha
(d) Jammu and Kashmir

**Answer: (c)**

23. How many minimum days of works is prov[illegible]nder Mahatma Gandhi National Rural Employment Guarantee Act 2005?

(a) 120 Days
(b) 100 Days
(c) 90 Days
(d) 60 Days

**Answer: (b)**

24. Average income can be derived by dividing the total income of the country by -

(a) Total population
(b) Total earning population
(c) Total population above 18 years of age
(d) Total population above the age of 24 years

**Answer: (a)**

25. Who among the following is regarded as the founding father of modern Economics?
    (a) John Maynard Keynes
    (b) Milton Friedman
    (c) Adam Smith
    (d) Karl Marx
    **Answer: (c)**

26. Which of the following is not an example of food rich in 'Ascorbic Acid'?
    (a) Amla
    (b) Vinegar
    (c) Orange
    (d) Lemon
    **Answer: (b)**

27. When an object is placed very close to a concave mirror, what is the nature of the image formed?
    (a) Virtual, erect and magnified
    (b) Real, erect and smaller in size
    (c) Virtual, Inverted and smaller in size
    (d) Virtual, erect and diminished in size
    **Answer: (a)**

28. Breeding of fish in specially constructed tanks an onds is called-
    (a) Sericites
    (b) Sericulture
    (c) Piscicides
    (d) Pisciculture
    **Answer: (d)**

29. As of 2020 which of the following is the largest producer of rice in the world?
    (a) China
    (b) Japan
    (c) India
    (d) Bangladesh
    **Answer: (a)**

30. Permanent settlement was introduced in which year?
    (a) 1773
    (b) 1783
    (c) 1793
    (d) 1788
    **Answer: (c)**

31. Hindustan Socialist Republican Association was founded in which year?

(a) 1907
(b) 1928
(c) 1942
(d) 1946

**Answer: (b)**

32. Which of the following commodity's production boom symbolized the new era of Industrialization in 18th century?

(a) Cotton
(b) Jute
(c) Silk
(d) Nylon

**Answer: (a)**

33. The book 'Wings on fire' is written by which of the following personalities?

(a) Jawaharlal Nehru
(b) A.P.J. Abdul Kalam
(c) R.K. Narayan
(d) Amitav Ghosh

**Answer: (b)**

34. Where is the headquarters of South Asian Assoc on for Regional Cooperation situated?

(a) New Delhi
(b) Kathmandu
(c) Islamabad
(d) Dhaka

**Answer: (b)**

35. Jeff Bezos's rocket company, Blue Origin's first flight is named after which of the following astronauts?

(a) Neil Armstrong
(b) Alan Shephard
(c) Buzz Aldrin
(d) John Glenn

**Answer: (b)**

36. Which football team won the UEFA European Football Championship 2020?

(a) Italy
(b) Germany
(c) England
(d) France

**Answer: (a)**

37. Right to Information (RTI) to the Citizens Act was passed in which of the following year?

(a) 2002
(b) 2003
(c) 2004
(d) 2005

**Answer: (d)**

38. Indian National Congress was founded in which of the following years?

(a) 1886
(b) 1888
(c) 1887
(d) 1885

**Answer: (d)**

39. Anti-defection law was introduced in which of the following years?

(a) 1985
(b) 1991
(c) 1994
(d) 1998

**Answer: (a)**

40. Which of the following is the only Indian woman t[illegible]n two medals in her Olympics career?

(a) PV Sindhu
(b) Mirabai Chanu
(c) Sakshi Malik
(d) Mary Kom

**Answer: (a)**

## Arithmetic Ability

42. What value will come in place of question mark (?) in the following question?
(?) 2 + 22 = 11 2 + 15 2

(a) 153
(b) 93
(c) 18
(d) 108

**Answer: (c)**

45. The average cost price of three products P, Q, R is Rs.360. The average cost price of four products P, Q, R, S is Rs.320. The average cost price of four products Q, R, S, T is Rs.300. The cost price of T is Rs.50 more than the cost price of S. Find the cost price of product P.

(a) Rs.310

(b) Rs.280

(c) Rs.270

(d) Rs.330

**Answer: (d)**

46. The difference between the lengths of the two candles is 4 cm, and the sum of their lengths is 32 cm. The length of the shorter candle is what percent less than the length of the longer candle?

(a) 33.33 percent

(b) 25 percent

(c) 22.22 percent

(d) 20 percent

**Answer: (c)**

47. A father increases pocket money of his son by 20 percent. If son gets Rs. 300 after increase, find his pocket money before increase.

(a) Rs. 250

(b) Rs. 240

(c) Rs. 200

(d) Rs. 230

**Answer: (a)**

48. A shopkeeper organizes a sale on Free F[illegible] fering a discount of 23 percent on all items. Still, he makes a profit of 10 percent. By how much percentage CP was lower than MP?

(a) 15 percent

(b) 20 percent

(c) 10 percent

(d) 30 percent

**Answer: (d)**

49. Ankita purchased a television and a camera for Rs.12, 000 and Rs.8, 000 respectively. She sold the television at a loss of 10 per cent and camera at a profit of 12 per cent. What is her overall loss/ profit?

(a) Rs.450

(b) Rs.240

(c) Rs.640

(d) Rs.790

**Answer: (b)**

50. If 5x : 3y = 45 : 21 and 3x+ 2y = 123, then find the value of (y + x).

(a) 82

(b) 66

(c) 108

(d) 48

**Answer: (d)**

51. Jackson walked every morning from Monday to Saturday. The ratio of distance walked on Monday to Tuesday is 2 : 1, on Tuesday to Wednesday is 3 : 2, on Wednesday to Thursday is 3 : 4, on Thursday to Friday is 2 : 1 and Friday to Saturday is 2 : 3. Find the ratio of the products of distances walked on Monday, Tuesday, and Wednesday to the products of distances walked on Thursday, Friday, and Saturday.

(a) 243 : 64

(b) 27 : 4

(c) 64 : 27

(d) 81 : 16

**Answer: (d)**

52. A part of Rs. 1200 was lent at 10 percent per annum and rest at 7 percent per annum. The total interest earned in two years was Rs 180. The sum lent at 7 percent was:

(a) Rs.750

(b) Rs.1000

(c) Rs.820

(d) Rs.200

**Answer: (b)**

53. A jouney of 96 km takes one hour less by a fast train (A) than by a slow train (B). If the average speed of B is 16 km/h less than that of A, then the average speed (in km/h) of A is:

(a) 64

(b) 48

(c) 54

(d) 60

**Answer: (b)**

54. A car covers four successive 8 km distance at speed of 10 kmph, 20 kmph, 30 km/hr and 60 kmph respectively. Its average speed over this distance is:

(a) 20 kmph

(b) 30 kmph

(c) 45 kmph

(d) 50 kmph

**Answer: (a)**

55. Ratish takes 3 hours to type 24 pages. Shamik takes 9 hours to type 45 pages. In how many hours they will type 351 pages together?

(a) 24 hours

(b) 18 hours

(c) 27 hours

(d) 30 hours

**Answer: (c)**

56. There is a leak in the bottom of the tank. This leak can empty a full tank in 8 hours. When the tank is full, a tap-in is opened into the tank which admits 10 liters per hour into the same tank and the tank is then emptied in 12 hours. What is the capacity of the tank?

(a) 280 liters

(b) 250 liters

(c) 240 liters

(d) 200 liters

**Answer: (c)**

## General English

61. In the following question, a part of the sentence may contain an error. Identify the part that contains the error and select it as your answer. If the sentence is free from error, select 'No error'.
Chosen carefully by the researchers, the oils may not 'y palliated the condition, but also cure it.

(a) Chosen carefully by the researchers,

(b) the oils may not only palliated

(c) the condition, but also cure it.

(d) No error

**Answer: (b)**

62. In the following question, a part of the sentence may contain an error. Identify the part that contains the error and select it as your answer. If the sentence is free from error, select 'No error'.
They soak up all the resources, leaving little if nothing for experimentation or new approaches to unique circumstances.

(a) They soak up all the resources, leaving

(b) little if nothing for experimentation or

(c) new approaches to unique circumstances.

(d) No error

**Answer: (b)**

63. Select the most appropriate option to substitute the bracketed part in the given sentence. If there is no need to substitute the bracketed part, select ‘No improvement’.
If Louisa is coming, (she could look for) the children for a while.

(a) she’ll look for

(b) she could look after

(c) she can look after

(d) No improvement required

**Answer: (c)**

64. Select the most appropriate synonym of the given word.
ANCIENT

(a) antique
(b) modern
(c) new
(d) recent

**Answer: (a)**

65. Select the most appropriate option to fill in the blank.
It_____ a lot yesterday night.

(a) has been raining
(b) did rained
(c) rained
(d) had rained

**Answer: (c)**

66. Select the most appropriate option to fill in the blank.
Scientists have created a flock of sheep _____ carry the gene for a lethal inherited brain disorder in humans.

(a) whom
(b) when
(c) which
(d) while

**Answer: (c)**

67. In the following question, a sentence is pr[illegible]with two blanks. Choose the correct combination of words that fit into the corresponding blanks.
In a bid to _____ investment activity, Finance Minister Nirmala Sitharaman on September 21, 2019 _____ a sharp cut in corporate taxes for domestic companies.

(a) revive, announced
(b) revives, announce
(c) reviving, announces
(d) revived, announced

**Answer: (a)**

68. In the following question given below, a sentence is given with two blanks. Choose the correct combination of words that fit into the corresponding blanks.
The heavyweight wrestler _____ positive for a _____ substance during last month's Olympic qualifying tournament in Sofia, Bulgaria.

(a) tested, prohibit
(b) testing, prohibited
(c) tested, prohibited
(d) test, prohibiting

**Answer: (c)**

69. The question below consists of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.
(P) There my father suggested that we go for a cable car ride to Sentosa.
(Q) We were at Mount Faber Park, enjoying the cool evening breeze and the scenic view.
(R) "It will be an experience for the girls," Dad claimed as my mother raised her eyebrows, questioning the wisdom of his decision.
(S) The Park provides a breath-taking view with its slope having a tower which is a part of the cable car system.

(a) PQSR
(b) RSQP
(c) PRQS
(d) QSPR

**Answer: (d)**

70. Select the synonym for the given word.
ENGULF

(a) encroach
(b) enshrine
(c) envelop
(d) entangle

**Answer: (c)**

71. Select the antonym for the given word.
ILLUSION

(a) Reality
(b) Mirage
(c) Hallucination
(d) Fantasy

**Answer: (a)**

72. Find the incorrectly spelt word.

(a) Assortment
(b) Burnished
(c) Obliterate
(d) Perfidioussness

**Answer: (d)**

73. Select the correctly spelt word.

(a) Impovarish
(b) Immpoverish
(c) Impoverish
(d) Immpovarish

**Answer: (c)**

74. In the following question, out of the four given options, select the one that best expresses the meaning of the idiom/phrase.
Face the music

(a) To be likely to be successful in the future.
(b) To finally get an advantage from an argument.
(c) To be much more successful than your competitors.
(d) To be confronted with the unpleasant consequences of one's actions.

**Answer: (d)**

75. Select the word which means the same as the following group of words.
Strike repeatedly with the fists.

(a) Agony
(b) Pummel
(c) Anguish
(d) Respite

**Answer: (b)**

76. Which of the following films doesn't have a science fiction genre?

(a) Edge of Tomorrow
(b) Rain Man
(c) Minority Report
(d) Vanilla Sky

**Answer: (b)**

78. At the starting of his career, for which of the following films Thomas got critical acclaim?

(a) A Few Good Men
(b) Magnolia
(c) The Color of Money
(d) Knight and Day

**Answer: (c)**

79. Thomas has been married to three women. Which of the following is not one of his wives?

(a) Nicole Kidman
(b) Katie Holmes
(c) Ron Kovic
(d) Mimi Rogers

**Answer: (c)**

## Discipline1

101. Line spectra of an atom is also known as :

(a) Fingerprints of atom
(b) Duplication of an atom
(c) Prints of atom
(d) shadow of atom

**Answer: (a)**

102. The restriction of any property to discrete values and not continuous values is called _____.

(a) spectra
(b) quantization
(c) threshold
(d) absorption

**Answer: (b)**

103. Which of the following is not true for kinetic molecular theory of gases?

(a) Actual volume of gas molecules is negligible in comparison to the total volume of the gas
(b) particles of gases do not collide with each other
(c) particles of gases collide with the walls of container
(d) particles of gas are in constant random motion

**Answer: (b)**

104. Which of the following is correct formula of Am[illegible]ons' law?

(a) P1 ÷ T1 =P2÷ T2
(b) P1 ÷ V1 = P2 ÷ V1
(c) T1 ÷ V1 = T2 ÷ V2
(d) P1 ÷T2 = P2 ÷T1

**Answer: (a)**

105. Number of structural isomers can be formed by the compound C8H18 :

(a) 8
(b) 18
(c) 35
(d) 5

**Answer: (b)**

106. The thermodynamic process having same initial and final state are called :

(a) Adiabatic process
(b) Isobaric process
(c) Cyclic process
(d) Isochoric process

**Answer: (c)**

107. Which of the following is not a extensive property?

(a) volume

(b) enthalpy

(c) mass

(d) refractive index

**Answer: (d)**

108. Which of the following is true for hydration enthalpy?

(a) Li+ >Na+>K+ >Rb+

(b) Li+<Na+ <K+ <Rb+

(c) Na+ < Li+<K+<Rb+

(d) Li+< Rb+<K+ <Na+

**Answer: (a)**

109. Who was one of the persons who discovered the element Argon?

(a) Sir William Ramsay

(b) Janssen

(c) Lockyer

(d) Dorn

**Answer: (a)**

110. What is the colour of Rubidium ?

(a) blue

(b) green

(c) yellow

(d) silvery -white

**Answer: (d)**

111. Which of the following is reagent used in Halogenation?

(a) Anhydrous FeBr3

(b) Hydrous AlCl3

(c) NaCl

(d) KCl

**Answer: (a)**

112. Which of the following is not a Non -polar solvent?

(a) CCl4

(b) CS2

(c) C6H6

(d) H2O

**Answer: (d)**

113. 1-1-Dihalides are commonly known as:
(a) geminal dihalide
(b) vicinal dihalide
(c) iso- dihalides
(d) tetra-dihalide
**Answer: (a)**

114. Which of the following is not application of electrochemical series?
(a) Comparing the relative oxidising and reducing strength of substances
(b) Calculating e.m.f. of the any cell
(c) Predict the feasibility of a redox reaction
(d) it can not predict whether a metal can liberate hydrogen from acid or not .
**Answer: (d)**

115. Which of the following is not Factors affecting electrolytic conduction ?
(a) Temperature
(b) nature of electrolytes
(c) concentration of solution
(d) pressure
**Answer: (d)**

116. Which of the following is used in treatment of lea poisoning ?
(a) EDTA
(b) Nickel
(c) Zinc
(d) DMG
**Answer: (a)**

117. Which catalyst of the following is NOT commonly used for Hydrogenation reactions?
(a) Plastic
(b) Nickel
(c) Platinum
(d) Palladium
**Answer: (a)**

118. The IUPAC name of the complex NI(CO)4 .
(a) Tetracarbonyl nickel
(b) Tetracarbo nickel
(c) Tetranickel carbonate
(d) Carbonate tetra nickel
**Answer: (a)**

119. What will be the IUPAC name of C2H5N(CH3)CH2CH2CH2CH3 ?

(a) N-Ethyl-N-methyl butylamine

(b) N-Methyl-N-methyl butylamine

(c) N- Butylamine

(d) N- Propyl-Butylamine

**Answer: (a)**

120. Which of the following is an example of terpene?

(a) Limonene

(b) amine

(c) benzene

(d) halothane

**Answer: (a)**

## Discipline2

121. Which of the following is not a use of Acetic acid?

(a) Production of vinyl acetate monomer

(b) As Vinegar

(c) As antiseptic against pseudomonas, enterococci, streptococci, staphylococci and others

(d) As pain killer

**Answer: (d)**

122. Which of the following is not true for reaction r ?

(a) Rate of reaction depends upon tem

(b) larger the surface area faster will be the r tion

(c) depends upon the concentration of the product

(d) depends upon the nature of the reactants

**Answer: (c)**

123. Which of the following is application of Le Chatelier's principle?

(a) Manufacturing of ammonia

(b) Manufacturing of nitric oxides

(c) melting of ice

(d) freezing of ice

**Answer: (a)**

124. Phylloquinone is scientific name of :

(a) Vitamin A

(b) Vitamin K

(c) Vitamin C

(d) Vitamin D

**Answer: (b)**

125. Who discovered DNA finger printing?

(a) Prof. Lalji Singh

(b) Dr. Har Gobind

(c) Alec Jeffreys

(d) Marshall

**Answer: (c)**

126. The maximum number of electrons in an atom which can have n=2.

(a) four

(b) five

(c) sixteen

(d) eight

**Answer: (d)**

127. _____'s Exclusion Principle states that no two electrons in the same atom can have identical values for all four of their quantum numbers.

(a) Erwin Schrödinger

(b) Wolfgang Pauli

(c) Niels Bohr

(d) Werner Heisenberg

**Answer: (b)**

128. Which of the following is not a quantum number

(a) Azimuthal quantum number

(b) Magnetic quantum number

(c) Level quantum number

(d) Spin quantum number

**Answer: (c)**

129. Which of the following is not true as a limitation of valence bond theory?

(a) This theory could not explain the perfect geometries of molecule such as Ammonia, Methane, Water etc.

(b) Magnetic properties of molecule is not explained in this theory.

(c) This theory did not given perfect bond angle of the molecules like water, CO , Ammonia etc. 2

(d) This theory does not differentiate between strong sigma bonds and weak pi bonds.

**Answer: (d)**

130. Which of the following refers to the spatial arrangement of ligands around central metal atom/ ion ?

(a) coordination polyhedron

(b) coordination hedron

(c) coordination octahedral

(d) coordination polyoctahedron

**Answer: (a)**

131. Which option refers to the process of decomposing higher hydrocarbons into lower hydrocarbons by strong heating ?

(a) Cracking
(b) Roasting
(c) vulcanization
(d) substitution

**Answer: (a)**

132. Which option refers to the most stable conformation of cyclohexane?

(a) Chair shaped
(b) dumbbell shaped
(c) bent T- shaped
(d) distorted octahedral

**Answer: (a)**

133. Who demonstrated characteristic spectra and initiated the technique of spectroscopic analysis of the chemical composition of matter?

(a) Hund
(b) Kirchhoff
(c) Maxwell
(d) Boltzmann

**Answer: (b)**

134. Any vector A , satisfying the condition div A = 0 called:

(a) Null vector
(b) Orthogonal vector
(c) Solenoidal vector
(d) Unit vector

**Answer: (c)**

135. Evaluate div($3x^2z\ i - xy^2z\ j + 2yz^2\ k$).

(a) 6xz - 2xyz + 4 yz
(b) 6xz + 2xyz + 4 yz
(c) xz -2xyz + 4 yz
(d) 6xz -2xyz + yz

**Answer: (a)**

136. $dy/dx = x+4$ is the differential equation of order _____ and degree _____.

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

**Answer: (a)**

137. Acceleration is _____ to Galilean transformation.

(a) Variant
(b) Invariant
(c) constant
(d) Maximum

**Answer: (b)**

138. Work done by the net force on a particle is equal to the change in the kinetic energy of the particle. This theorem is called:

(a) Energy theorem
(b) Work -energy theorem
(c) Power transfer theorem
(d) Betti's theorem

**Answer: (b)**

139. _____ is the highest velocity that can be attained by an object when it falls through the fluid.

(a) Average velocity
(b) Terminal velocity
(c) Instantaneous velocity
(d) Relative velocity

**Answer: (b)**

140. If the resultant electric field is zero at a point th that point is called as:

(a) Neutral point
(b) Terminal point
(c) Electrical point
(d) Magnetic point

**Answer: (a)**

## Discipline3

141. A low resistance connected in parallel to a moving coil galvanometer to protect it from large currents is known as:

(a) Shunt
(b) Ammeter
(c) Voltmeter
(d) Inductor

**Answer: (a)**

142. The impedance offered by a string to transverse and progressive waves is known as:

(a) Impedance matching

(b) voltage

(c) Transverse Impedance

(d) Inductance

**Answer: (c)**

143. If the concave mirror has the radius of curvature 18 cm then its focal length will be:

(a) 9 cm

(b) - 9cm

(c) 8 cm

(d) -8cm

**Answer: (b)**

144. The relation between Phase velocity (u) and Group velocity(v9) is:

(a) v9 = u -λdu⁄dλ

(b) v9 = du⁄dλ

(c) v9 = u -λdu

(d) v9 = u λ

**Answer: (a)**

145. Heat transfer is an example of:

(a) Reversible process

(b) Irreversible Process

(c) Polarization

(d) Quasi static process

**Answer: (b)**

146. The internal energy, U of n moles of an ideal gas of monoatomic molecules is given by equation:

(a) U=³⁄₂ nRT

(b) U=f⁄₂ nRT

(c) U=½ nRT

(d) U=nRT

**Answer: (a)**

147. The total radiant energy(E) emitted per second from unit surface area of a black body is proportional to the fourth power of its absolute temperature (T) is called as:

(a) Kirchhoff's law

(b) Wien's law

(c) Ohm's law

(d) Stefan -Boltzmann's law

**Answer: (d)**

148. The JK flip flop work as a T-type toggle flip flop when both of its inputs are set to:

(a) Zero

(b) one

(c) Maximum

(d) Infinity

**Answer: (b)**

149. A logic circuit that adds two bits producing a sum and a carry to be used in the next higher position is called as:

(a) Full -adder

(b) Half -adder

(c) Series circuit

(d) Parallel circuit

**Answer: (b)**

150. Astable Multivibrators are digital oscillators, or clock generator circuits and sometimes are called:

(a) Shift registers

(b) Free running multivibrators

(c) Comparator

(d) Decoder

**Answer: (b)**

151. The Laplace transform of L(t cos at) is:

(a) $(s^2-a^2)/(s^2+a^2)^2$

(b) $b/(s-a)^2+b^2$

(c) $b/(s-a)^2-b^2$

(d) $s-a/(s-a)^2-b^2$

**Answer: (a)**

152. A connected open set is called:

(a) Domain

(b) Open set

(c) Closed set

(d) Limit point

**Answer: (a)**

153. The relation between half life time (T) is and average life time (Ta) is:

(a) T = 0.693Ta

(b) T = 0.0003λ

(c) T = 0.1013λ

(d) T = 0.5073λ

**Answer: (a)**

154. The principle of _____ is used in the construction of atom bomb.

(a) Superposition
(b) Fission
(c) Fusion
(d) Alpha decay

**Answer: (b)**

155. Neutrons with energies having range between 0.5 to10 Mev are called:

(a) Slow neutrons
(b) Fast neutrons
(c) Moderate neutrons
(d) None of these

**Answer: (c)**

156. The ratio of output voltage (V0) to the input signal voltage (Vs) is called as:

(a) Power gain
(b) Amplification factor
(c) Voltage gain
(d) Bandwidth

**Answer: (c)**

157. The output impedence of an ideal operational am ier is assusmed to be:

(a) Zero
(b) Infinity
(c) Minimum
(d) Maximum

**Answer: (a)**

158. The maximum rate of change of an op amp's output voltage per unit of time is called:

(a) CMRR
(b) Bandwidth
(c) Slew Rate
(d) Power gain

**Answer: (c)**

159. The eigenvalues of a Hermitian operator are always:

(a) Real
(b) Non - Real
(c) Constant
(d) Indefinite

**Answer: (a)**

160. _____ is the lowest value of energy the harmonic oscillator can have.

(a) E0= hv

(b) E0= ½ h

(c) E0= ⅓ hv

(d) E0= ½ hv

**Answer: (d)**

## Discipline4

161. The co-ordinate sysytem in which the bombarded particle is intially at rest is known as:

(a) Laboratory system

(b) Center of mass system

(c) open system

(d) closed system

**Answer: (a)**

162. The packing factor of a simple cube is:

(a) π⁄4

(b) π⁄6

(c) π⁄3

(d) π⁄8

**Answer: (b)**

163. According to _____, the magnetic susce ibility of a paramagnetic substance is inversely proportional to the absolute temp ture

(a) Curie's law

(b) Coulomb's law

(c) Biot-savart's law

(d) Gauss law

**Answer: (a)**

164. The amount of energy which is spent to separate the solid ionic crystal into its constituent ions is called:

(a) Lattice energy

(b) Mechanical energy

(c) Chemical energy

(d) Nuclear energy

**Answer: (a)**

165. An Electromagnetic wave can be generated by _____ charges.

(a) Static

(b) Accelerated

(c) Positive

(d) Negative

**Answer: (b)**

166. A dipole whose dipole moment varies sinusoidally is called:

(a) Atomic dipole

(b) Molecular dipole

(c) Oscillating dipole

(d) Induced dipole

**Answer: (c)**

167. _____ is used in quantum theory to describe the statistical state of a quantum system.

(a) Density operator

(b) Hermitian operator

(c) Momentum operator

(d) Position operator

**Answer: (a)**

168. In which year did French painter and chemist Louis-Jacques-Mandé Daguerre photographed photo of any person the first time?

(a) 1837

(b) 1839

(c) 1847

(d) 1827

**Answer: (b)**

169. In which year of the following National Geograp magazine had an Afghan Girl on its cover?

(a) 1985

(b) 1983

(c) 1987

(d) 1980

**Answer: (a)**

170. Which light produces high contrast images with lots of shadows and definition, along with bright, vivid colors

(a) Indirect light

(b) Diffused light

(c) Direct light

(d) Soft light

**Answer: (c)**

171. Technically, light is diffused when it passes through a _____ object such as a large sheet, or a window.

(a) Shadow

(b) Solid

(c) Dark

(d) Transparent

**Answer: (d)**

172. Which type of focusing in digital cameras allows you to use several focus points as well as the main one in the centre.

(a) multi-segment
(b) single-segment
(c) zero-segment
(d) uniform-segment

**Answer: (a)**

173. What is the way in which unwanted motion blur can be avoided?

(a) By decreasing shutter speed
(b) By increasing shutter speed
(c) By closing shutter
(d) By opening shutter

**Answer: (b)**

174. What is use of wide angle lenses in camera?

(a) Shrinks the image
(b) Captures a lot of details
(c) Translate the image
(d) Squeeze the image

**Answer: (b)**

175. Which type of lenses is used majorly in portrait photography?

(a) Curvature lenses
(b) Long lenses
(c) Short lenses
(d) Telephoto lenses

**Answer: (d)**

176. A true macro lens can yield a _____ magnification without any attachment.

(a) 10 : 1
(b) 1 : 10
(c) 1 : 1
(d) 10 : 100

**Answer: (c)**

177. _____ is a technique that allows you to combine multiple photographs with different focus distances to produce a single image with more of a subject in focus.

(a) Focus stacking
(b) Stabilization
(c) Depth field
(d) Low field

**Answer: (a)**

178. The _____ setting affects the depth of field.

(a) Camera
(b) Aperture
(c) Focus
(d) Dimension

**Answer: (b)**

179. _____ speed refers to the amount of time the shutter remains open to capture the image

(a) ISO
(b) Aperture
(c) Shutter
(d) Camera

**Answer: (c)**

180. _____ is the process of removing unrealistic color casts, so that objects which appear white in person are rendered white in your photo.

(a) White balance
(b) Black balance
(c) White imbalance
(d) Black Imbalance

**Answer: (a)**

## Discipline5

181. A flash diffuser is used to minimize __

(a) Brightness
(b) Color
(c) Light
(d) Shadow

**Answer: (d)**

182. Candle light is a light source with which range of color temperature?

(a) 1000-2000 K
(b) 2500 - 3500 K
(c) 500 - 1000 K
(d) 3000 - 3500 K

**Answer: (a)**

183. Digital _____ use tiny photodiodes that allow an electrical current to flow when light is placed upon them.

(a) flash
(b) sensors
(c) optics
(d) keys

**Answer: (b)**

184. Lightroom is a cataloging software. What does that mean?

(a) Lightroom doesn't actually touch your photos.

(b) Lightroom edits your photos.

(c) Lightroom touches your photos.

(d) Lightroom makes your photos more visible.

**Answer: (a)**

185. Which file format is the best known for small size of digital image?

(a) TIP

(b) TIFF

(c) JPEG

(d) RAW

**Answer: (c)**

186. _____ is the ability to distinguish fine spatial detail.

(a) Resolution

(b) Sketching

(c) Filling

(d) Compression

**Answer: (a)**

187. _____ is used to reduce image file size for sto ge, processing, and transmission.

(a) Restoration

(b) Compression

(c) Filling

(d) Resolution

**Answer: (b)**

188. Which effect of Depth of field is most suitable for portrait photography?

(a) Smallest aperture (f24)

(b) Small aperture (f16)

(c) Large aperture (f4)

(d) Normal aperture (f12)

**Answer: (c)**

189. Higher-end DSLRs have a feature called "_____" for wildlife photography.

(a) Lens Micro-adjustment

(b) Lens Macro-adjustment

(c) Shutter adjustment

(d) Light adjustment

**Answer: (a)**

190. This is the illuminance produced by a luminous flux of one lumen, uniformly distributed over a surface area of one square metre.

(a) Lux
(b) Luminous
(c) Illuminance
(d) Color Rendering

**Answer: (a)**

191. Which of the following tool is the light diffuser?

(a) Lightbox
(b) Hardbox
(c) Softbox
(d) Gearbox

**Answer: (c)**

192. A snoot should have a minimum of _____ mm to have a good effect in front of your light source.

(a) 200
(b) 300
(c) 100
(d) 400

**Answer: (a)**

193. What does a snoot do on a flash?

(a) blocks the beam of light
(b) creates a soft, concentrated beam of light.
(c) creates a hard, reflected beam of light.
(d) creates a hard, concentrated beam of light.

**Answer: (d)**

194. _____ need to give the viewer the sense that they're meeting someone, in a professional context, for the first time.

(a) Headshots
(b) Softbox
(c) Snoot
(d) Light

**Answer: (a)**

195. To add a silky look to fast flowing water photos on a tripod for enhanced depth of field, what should be the shutter speed?

(a) 1/2 to 1/30 second
(b) 1 - 30+ seconds
(c) 2 - 1/2 second
(d) 0 second

**Answer: (c)**

196. A _____ shutter speed will increase the aperture and thus result in loss of depth of field and front to back sharpness

(a) slower
(b) faster
(c) medium
(d) zero

**Answer: (b)**

197. _____ is a lighting technique in which the light from a strong light source is literally bounced off of a bounce board, reflector, or other light colored surface.

(a) Bounce light
(b) Heavy light
(c) Diffused light
(d) Refracted light

**Answer: (a)**

198. Which of the following is an underused tool of composition, and yet it is probably the most important rule of composition for shooting group photos.

(a) Square
(b) Rectangle
(c) Circle
(d) Triangle

**Answer: (d)**

199. One of the common mistakes is placi[illegible] _____ too close to the axis of the people, so one person's head throws a shadow on the [illegible]son.

(a) camera
(b) lights
(c) hand
(d) tripod

**Answer: (b)**

200. Composition in photography refers to a set of principles a photographer can use to

(a) Make the photos more squeezed
(b) Make the photos more closer
(c) Make the photos more pleasing and interesting
(d) Make the photos more stretched

**Answer: (c)**

# 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 | **(d)** | 3 | **(d)** | 4 | **(d)** | 5 | **(d)** | 6 | **(c)** | 7 | **(d)** | 8 | **(a)** |
| 9 | **(b)** | 10 | **(d)** | 11 | **(b)** | 12 | **(a)** | 13 | **(d)** | | | | | | |

## General Awareness

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

## Arithmetic Ability

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

## General English

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 61 | **(b)** | 62 | **(b)** | 63 | **(c)** | 64 | **(a)** | 65 | **(c)** | 66 | **(c)** | 67 | **(a)** | 68 | **(c)** |
| 69 | **(d)** | 70 | **(c)** | 71 | **(a)** | 72 | **(d)** | 73 | **(c)** | 74 | **(d)** | 75 | **(b)** | 76 | **(b)** |
| 78 | **(c)** | 79 | **(c)** | | | | | | | | | | | | |

## Discipline1

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 101 | **(a)** | 102 | **(b)** | 103 | **(b)** | 104 | | 05 | **(b)** | 106 | **(c)** | 107 | **(d)** | 108 | **(a)** |
| 109 | **(a)** | 110 | **(d)** | 111 | **(a)** | 112 | **(d)** | 113 | **(a)** | 114 | **(d)** | 115 | **(d)** | 116 | **(a)** |
| 117 | **(a)** | 118 | **(a)** | 119 | **(a)** | 120 | **(a)** | | | | | | | | |

## Discipline2

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

## Discipline3

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

## Discipline4

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

## Discipline5

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