PREVIOUS YEAR PAPER

DSSSB TGT Natural Science (Male) 2021 — 8 September 2021, Shift 1

DSSSB TGT · 8 September 2021 · Shift 1

150 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: 50 (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 8 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-tgt/previous-year-papers/dsssb-tgt-2021-natural-science-male-8-sep-shift-1/

General Ability

1. Find the wrong term in the letter-cluster series given below:
KDXE, RIEJ, YNLO, FSSU, MXZY

(a) RIEJ
(b) YNLO
(c) FSSU
(d) MXZY

Answer: (c)

2. Find the missing term in the following letter-clust eries given below:
HN22, PT36, XZ50, ? , NL26

(a) EF12
(b) FE12
(c) FF11
(d) FF12

Answer: (d)

3. Four pairs of words are given. Find the odd one out.

(a) White : Snow
(b) Red : Blood
(c) Brown : Sky
(d) Green : Grass

Answer: (c)

4. Select the related number from the given alternatives.
GH : 78 : : DE : ?

(a) 33
(b) 53
(c) 45
(d) 36

Answer: (c)

5. If KIND is coded as 8567, WATER is coded as 14329, what will be the code for TINDER?

(a) 356792
(b) 357629
(c) 356729
(d) 336792

Answer: (c)

6. In a row of children, who are facing north. Abhas is 19th from the left end and second to the right of Suresh, who is 17th from the right end .
How many children are there in that row?

(a) 32
(b) 33
(c) 34
(d) 35

Answer: (b)

7. Six friends Gagan, Iqbal, Jeetu, Krishna, Lalit and Manish are working in different companies. For example, A, B, C, D, E and F, but not necessarily in the same order. Each of them likes a different color viz- orange, green, blue, yellow, red, and white but not necessarily in the same order.Jeetu likes red color but does not work in company E or D. The one who likes Yellow works in Company B. Lalit works in company F and likes green color. Krishna does not like orange, yellow or blue color. The one who works in company C likes White. Gagan does not work in company C and Manish does not work in company E or D. Iqbal likes blue color but does not work in company D.
Who works in Company A?

(a) Manish
(b) Krishna
(c) Jeetu
(d) Iqbal

Answer: (c)

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:
All neighbors are friends.
No friend is classmates.
Conclusions:
(I) Some neighbors are classmates.
(II) No classmates is friend.

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

Answer: (b)

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 business are profit.
Some profit are sale.
Some sale are loss.
Conclusions:
(I) Some sale are profit.
(II) Some business are sale.

(a) Only I follow

(b) Only II follows

(c) Both I and II follow

(d) Neither I nor II follows

Answer: (a)

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:
All animals are lion.
Some animals are camel.
No camel is deer.
Conclusions:
(I) Some animal are deer.
(II) No animal is deer.
(III) No deer are lion.

(a) Only I follow

(b) Only II follows

(c) Only III follows

(d) Either I or II follows

Answer: (d)

11. In the following question, select the related number from the given alternatives.
0.16 : 0.0016 : : 1.02 : ?

(a) 10.20

(b) 0.102

(c) 0.0102

(d) 1.020

Answer: (c)

12. In the question below, a statement is followed by two conclusions. Study the conclusions and select the correct option as the answer.
Statements:
A < M, O ≤ M < B >Y ≤ T
Conclusions:
I. A = O
II. Y < A

(a) Both follow
(b) None follows
(c) Only I follows
(d) Only II follows

Answer: (b)

13. In the following question, select the missing number from the given series.
18, 31, 42, 49, 54, ?

(a) 56
(b) 57
(c) 62
(d) 60

Answer: (b)

General Awareness

21. Where is Bahá'í Mashriqu'l-Adhkar, better knowr the "Lotus Temple" located in India?

(a) Tamil Nadu
(b) Karnataka
(c) Gujarat
(d) New Delhi

Answer: (d)

22. Which painting is also known as Mithila art?

(a) Pattachitra Painting
(b) Warli Folk Painting
(c) Madhubani painting
(d) Kalamezhuthu Painting

Answer: (c)

23. _____ is a classical dance form revitalised as a result of Mughal influence on Indian culture.

(a) Bharata Natyam
(b) Kathak
(c) Kuchipudi
(d) Odissi

Answer: (b)

24. _____ Gautama was the original name of Gautam Buddha.

(a) Sushant
(b) Shiva
(c) Sridhar
(d) Siddhartha

Answer: (d)

25. The Non-Cooperation Movement was pitched in under the leadership of _____ and the Indian National Congress from September 1920 to February 1922.

(a) Nana Sahib
(b) Mahatma Gandhi
(c) Tantya Tope
(d) Sardar vallabhbhai patel

Answer: (b)

26. The Mughal Emperor Aurangzeb ruled for about _____ years.

(a) 40 years
(b) 30 years
(c) 20 years
(d) 50 years

Answer: (d)

27. Which state became the first Indian state to provi reservation for transgenders in all government services?

(a) Karnataka
(b) Kerala
(c) Uttar Pradesh
(d) Himachal Pradesh

Answer: (a)

28. BS Yediyurappa has recently resigned as the Chief Minister of which state?

(a) Assam
(b) Sikkim
(c) Himachal Pradesh
(d) Karnataka

Answer: (d)

29. The Vikramshila Wildlife Sanctuary is located in _____.

(a) Uttarakhand
(b) Rajasthan
(c) Bihar
(d) Kerala

Answer: (c)

30. The Indian Wildlife Protection Act was implemented in the year _____.
    (a) 1974
    (b) 1982
    (c) 1980
    (d) 1972
    Answer: (d)

31. "The Iron Man Of India" is an epithet given to _____.
    (a) Sardar Vallabhbhai Patel
    (b) Lala Lajpatrai
    (c) Jamshetji Tata
    (d) Subhash Chandra Bose
    Answer: (a)

32. Who is the head of the Municipal corporation of most states in India?
    (a) Chief Minister
    (b) Mayor
    (c) Governor
    (d) Prime minister
    Answer: (b)

33. Vibrio cholerae is a _____ shaped pathogen.
    (a) Rod
    (b) Spiral
    (c) Comma
    (d) Circular
    Answer: (c)

34. According to Indian Bureau of Mines Report 2018, which among the following is the largest mica producing state in India?
    (a) Maharashtra
    (b) Karnataka
    (c) Andhra Pradesh
    (d) West Bengal
    Answer: (c)

35. _____ of a sound wave determines loudness of sound.
    (a) Speed
    (b) Frequency
    (c) Wavelength
    (d) Amplitude
    Answer: (d)

36. What is the SI unit of electrical resistance?
    (a) Mole
    (b) Volt
    (c) Ohm
    (d) Ampere
    Answer: (c)

37. A _____ is a paper instructing the bank to pay a specific amount from the person's account to the person in whose name the paper has been issued.
    (a) Cheque
    (b) Recurring deposit
    (c) Fixed deposit
    (d) Debit card
    Answer: (a)

38. The Union List includes subjects such as _____.
    (a) Police, trade,agriculture and irrigation.
    (b) Residuary subjects like computer software.
    (c) Defence, foreign affairs, banking, currency, communication.
    (d) Education, forests,trade unions, and succession
    Answer: (c)

39. Elaine Thompson-Herah is a _____.
    (a) Boxing Player
    (b) Hockey Player
    (c) Badminton Player
    (d) Sprinter
    Answer: (d)

40. Who is the first Asian to have been honoured with the Nobel Prize for Economics?
    (a) Mother Teresa
    (b) Amartya sen
    (c) Chandrashekhar Venkataraman
    (d) Hargobind Khorana
    Answer: (b)

Arithmetic Ability

42. What value will come in place of question mark (?) in the following question?
(42 2 + 45) ÷ (30 + 37) = ? × 3
    (a) 11
    (b) 8
    (c) 12
    (d) 9
    Answer: (d)

44. The L.C.M. of two different numbers are 30. Which of the following cannot be their H.C.F.?

(a) 6

(b) 15

(c) 10

(d) 12

Answer: (d)

45. The average output of n machines is k units per day. If one of the machines is excluded, whose output is 780 units per day, the average output will decrease by 30 units. Instead, if one dead machine is included, the average output will decrease by 90 units. What is the total output of n machines?

(a) 4020

(b) 3900

(c) 3640

(d) 3780

Answer: (d)

46. A person takes a contract to construct a road. He constructs 20 percent of the road on the first day, 30 percent of the remaining road on the second day, 50 percent of the remaining road on the third day, and the rest 7 km road on the fourth day. What is the length of the road?

(a) 50 km

(b) 35 km

(c) 25 km

(d) 49 km

Answer: (c)

47. A retailer buys a computer at 30,000. If he spent some overhead expenses on it and sells the computer for 43750 at a profit of 25 percent.
Overhead expenses are what per cent of cost price.

(a) 12.67 percent

(b) 15 percent

(c) 20 percent

(d) 16.67 percent

Answer: (d)

48. By selling 16 pencils for Rs. 20, a man incurred a loss of 1 percent. How many pencils must he sell for Rs. 20 in order to make a gain of 32 percent ?

(a) 8

(b) 12

(c) 9

(d) 6

Answer: (b)

49. An item is purchased at Rs.720, when the item is sold to a customer, 10 percent. profit is earned, then at what price the item is sold?

(a) Rs.756

(b) Rs.864

(c) Rs.792

(d) Rs.828

Answer: (c)

50. A man has 15.4 kg potatoes. He divides them into two parts. From the first part, he makes ajiaco, aligot, aloo pie and uses potatoes in the ratio 2 :
3 : 4. From the second part, he makes cheese fries, chips, coddle and uses potatoes in the ratio 5 :
7 : 4. If he uses the same quantity of potatoes to make ajiaco and cheese fries, then find the quantity of potatoes to make coddle.

(a) 1.6 kg

(b) 2.1 kg

(c) 1.3 kg

(d) 2.5 kg

Answer: (a)

51. 4 years ago age of A was 1.5 times of that of B and difference between their ages after 4 years will be 20 years, then what is the present age of A?

(a) 72 years

(b) 60 years

(c) 64 years

(d) 48 years

Answer: (c)

53. If a train running at a speed of 54 km/hr crosses a man standing on the platform in 32 seconds, then find the time taken by the train to cross a platform of length 720 metres.

(a) 72 seconds

(b) 64 seconds

(c) 80 seconds

(d) 90 seconds

Answer: (c)

54. Two cars P and Q start at the same time from A and B which are 240 km apart. If the two cars travel in opposite directions, they meet after 2 hour and if they travel in the same direction (from A towards B) P meets Q after 8 hours. What is the speed of the car P?

(a) 60 km/hr

(b) 75 km/hr

(c) 80 km/hr

(d) 70 km/hr

Answer: (b)

55. A can do a certain work in 20 days and B can do the same work in 24 days. A works alone for 1 day, then B works alone for 2 days, then A works alone for 3 days, then B works alone for 4 days, and so on. On which day will the work be completed?

(a) 22nd day

(b) 20th day

(c) 24th day

(d) 23rd day

Answer: (a)

56. If efficiency of A is 20 percent more than B, B is 30 percent more efficient than C, then the efficiency ratio of A, B and C are respectively:

(a) 78 : 65 : 50

(b) 65 : 78 : 50

(c) 37 : 38 : 43

(d) 35 : 70 : 87

Answer: (a)

General English

62. One part of the sentence below may contain an error. Identify the part. If there is no error, choose 'No error'.
Once the floods sets in for two to three months, every[illegible]ng comes to a standstill in those districts.

(a) Once the floods sets in for two to

(b) three months, everything comes

(c) to a standstill in those districts.

(d) No error.

Answer: (a)

64. 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'.
As she was (at a too great distance) to hear, I had to repeat every word.

(a) at too great a distance

(b) No Improvement

(c) at too great distance

(d) at a great distance

Answer: (a)

65. Select the most appropriate option to fill in the blank.
No worker has ever tried to live in a _____ house.

(a) soldier's

(b) soldiers'

(c) soldier

(d) soldier'

Answer: (a)

66. Select the most appropriate option to fill in the blanks.
Two images _____ to mind during the recent furious protests: alleged police _____ and tragic deaths.

(a) came, brutality
(b) come, brutality
(c) came, brutal
(d) coming, brutal

Answer: (a)

67. Select the most appropriate option to fill in the blanks.
The school teacher was angry _____ Naveen Kumar as he _____ not dressed properly.

(a) with, had
(b) upon, have
(c) with, having
(d) at, has

Answer: (a)

69. Select the most appropriate synonym for the given word.
Deceiving

(a) Misleading
(b) Honest
(c) Composed
(d) Stolid

Answer: (a)

70. Select the most appropriate antonym for t. n word.
Rebuff

(a) Approve
(b) Bruise
(c) High-spirited
(d) Sob

Answer: (a)

71. Select the INCORRECTLY spelt word.

(a) stamina
(b) phenomena
(c) tactic
(d) advisary

Answer: (d)

72. Select the CORRECTLY spelt word.

(a) Arrangment

(b) Arrangement

(c) Arangement

(d) Arrangemant

Answer: (b)

73. In the following question, out of the four given options, select the one that best expresses the meaning of the idiom/phrase.
A plum job.

(a) An expression of good-luck.

(b) A situation of having no job.

(c) A difficult job with many hardships.

(d) An easy pleasant job that also pays well.

Answer: (d)

74. In the following question, out of the four given options, select the one that best expresses the meaning of the idiom/phrase.
To walk the tight rope

(a) Be very nervous

(b) Be very cautious

(c) Be well trained

(d) Be an expert

Answer: (b)

75. Select the word which means the same as the following group of the words.
Mental disturbance caused by an illness.

(a) Dilemma

(b) Delirium

(c) Discrepancy

(d) Diurnal

Answer: (b)

78. The term 'Build Back Better' represents-

(a) An exclusive group.

(b) America's economy and jobs recovery plan.

(c) The current challenges at world level.

(d) Coronavirus vaccines to poorer countries.

Answer: (b)

Discipline1

102. Which of the following statements is incorrect?

(a) The resistance of the wire is directly proportional to the length of the wire.

(b) The resistance of the wire is directly proportional to the cross-sectional area of the wire.

(c) The resistance of a wire can never be negative.

(d) The resistance of wire is a constant for a given wire.

Answer: (b)

103. Which of the following statements is incorrect?

(a) The current produced by a battery is DC (Direct Current).

(b) The current that flows out from the switch points at homes is AC (Alternating Current).

(c) Devices like electric motor that work on DC are stronger than those that use AC.

(d) People who accidentally come in contact with AC are flung afar.

Answer: (c)

104. In which year did Michael Faraday make the discovery of Electromagnetic Induction?

(a) 1789

(b) 1831

(c) 1896

(d) 1908

Answer: (b)

105. Naturally occurring stones which were earlier fou to be able to attract iron and nickel like other substances were called -

(a) Magnetrons

(b) Lodestones

(c) Magnastones

(d) Loderons

Answer: (b)

106. While generating ocean thermal energy, which of the following types of liquids is boiled by the warm ocean water?

(a) Volatile liquid

(b) Non-volatile liquid

(c) Acidic liquid

(d) Basic liquid

Answer: (a)

107. Which of the following is NOT an advantage of nuclear energy?
1. No waste gases are produces when electricity is produced out of nuclear sources.
2. There is no scope of leakage of harmful radiations.
Choose the correct code:

(a) Only 1

(b) Only 2

(c) Both 1 and 2

(d) Neither 1 nor 2

Answer: (b)

108. Which of the following statements is NOT correct regarding generation of wind power?

(a) The turbine converts mechanical energy into electrical energy.

(b) The blades of the windmill are angled into the wind.

(c) In older windmills, wind energy was used to run machinery to do physical work, like crushing grain or pumping water.

(d) The wind speed is vital in the production of electricity.

Answer: (a)

109. How can biomass be used as a source of energy?
1. by burning dry biomass
2. by decomposition of biomass in the absence of oxygen Choose the correct code:

(a) Only 1

(b) Only 2

(c) Both 1 and 2

(d) Neither 1 nor 2

Answer: (c)

111. Find the work done by the force of gravity during the time a particle of mass 60 gm goes up on being thrown vertically upwards with a speed of 10m/s.

(a) -3.0 J

(b) -4.0 J

(c) -3.5 J

(d) -2.5 J

Answer: (a)

113. Which of the following is true about a solid floating with a part of it in the fluid?
1. The overall density of the solid is greater than the density of the fluid.
2. The weight of the displaced fluid equals the weight of the solid.
Choose the correct code:

(a) Only 1

(b) Only 2

(c) Both 1 and 2

(d) Neither 1 nor 2

Answer: (b)

114. The amount of light entering the eye may be controlled by varying the aperture of the pupil with the help of _____.

(a) Cornea

(b) Iris

(c) Retina

(d) Aqueous humour

Answer: (b)

115. _____ of an eye contains about 1 million optic nerve fibres (which transmit information to the brain).

(a) Retina

(b) Lens

(c) Cornea

(d) Pupil

Answer: (a)

116. Which of the following is/are true?
1. The power of a converging lens is positive.
2. The power of a diverging lens is negative.
Choose the correct code:

(a) Only 1

(b) Only 2

(c) Both 1 and 2

(d) Neither 1 nor 2

Answer: (c)

117. The appearance of sound to a human ear is objectively characterised by which of the following parameters?
1. Frequency
2. Intensity
3. Waveform
Choose the correct code:

(a) 1, 2 and 3

(b) Only 1 and 2

(c) Only 2 and 3

(d) Only 1 and 3

Answer: (a)

118. Which of the following statements is/are true?
1. The disturbance produced by source of sound is always a sine wave.
2. The disturbance produced by source of sound is never a sine wave.
3. The disturbance produced by source of sound is not always a sine wave.
4. A pure sine wave has a unique frequency.
Choose the correct code:

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

Answer: (c)

119. In an alpha particle the protons will repel each other due to _____ force.

(a) Coulomb
(b) Gravitational
(c) Electromagnetic
(d) Nuclear

Answer: (a)

Discipline2

121. Frequencies higher than _____ are called ultrasonic sound or ultrasound.

(a) 20 Hz
(b) 30 Hz
(c) 20 kHz
(d) 10 kHz

Answer: (c)

122. Which of the following is the maximum acceleration of the bus in which a box lying on its floor will remain stationary, given that the co-efficient of static friction between the box and the bus's floor is 0.14 and g = 10 ms -2 ?

(a) 2.8 ms -2
(b) 4.2 ms -2
(c) 14 ms -2
(d) 1.4 ms -2

Answer: (d)

123. A batsman hits back a ball straight in the direction of the bowler without changing its initial speed of 10 ms -1 . If the mass of the ball is 0.12 kg, determine the impulse imparted to the ball. (Assume linear motion of the ball).

(a) 3.6 N s
(b) 2.4 N s
(c) 11.4 N s
(d) 9.4 N s

Answer: (b)

125. The field lines inside the solenoid are in the form of _____.

(a) Parallel straight lines.

(b) Straight lines that intersect each other multiple times.

(c) Parallel curved lines.

(d) Intersecting curved lines.

Answer: (a)

126. Which of the following statements is NOT true?

(a) A piece of wire made of lead and tin alloy is used in making fuse.

(b) The fuse wire is connected to the main source in parallel.

(c) The fuse wire has its melting point lower than that of electrical wire.

(d) The fuse wire has high resistance than that of electrical wire.

Answer: (b)

127. Which of the following statement is true regarding the phenomenon known as mirage?

(a) The refractive index of air decreases with its density.

(b) If the air is still, the optical density at different layers of air decreases with height.

(c) Light from a tall object such as a tree, passes through a medium whose refractive index increases towards the ground.

(d) The image formed is always inverted.

Answer: (d)

128. Two different atoms or groups of atoms (ions) a exchanged in _____ reactions.

(a) Corrosion

(b) Rancidity

(c) Double displacement

(d) Single displacement

Answer: (c)

129. An isotope of _____ is used as a fuel in nuclear reactors.

(a) Uranium

(b) Hydrogen

(c) Iodine

(d) Cobalt

Answer: (a)

131. Nonmetallic oxides are _____ in nature.

(a) Mildly Basic

(b) Acidic

(c) Neutral

(d) Extremely basic

Answer: (b)

132. Which of the following is true?
1. Hydrogen ions in HCl are produced in the presence of water.
2. Hydrogen ions can exist alone.
Choose the correct code:

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

Answer: (a)

133. Where can we find Methanoic Acid in nature?

(a) Vinegar
(b) Sour Milk
(c) Ant sting
(d) Tamarind

Answer: (c)

134. Which among the following is a poor conductor of heat?

(a) Copper
(b) Silver
(c) Mercury
(d) Aluminium

Answer: (c)

135. Which of the following is a non-metal that can exist in different forms?

(a) Iodine
(b) Carbon
(c) Lithium
(d) Gallium

Answer: (b)

136. Which of the following is correct?
1.Most non-metals produce basic oxides.
2. Most metals produce acidic oxides.
Choose the correct code:

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

Answer: (c)

138. In order to attain an octet, each nitrogen atom in a molecule of nitrogen contributes (I)_____ electrons giving rise to (ii)_____ shared pairs of electrons.

(a) (i) four, (ii) four

(b) (i) five, (ii) four

(c) (i) three, (ii) three

(d) (i) four , (ii) three

Answer: (c)

139. Which of the following statement is false regarding the formation of bonds between oxygen atoms?
1. We see the formation of a double bond between two oxygen atoms
2. This is because an atom of oxygen has four electrons in its L shell (the atomic number of oxygen is eight) and it requires four more electrons to complete its octet.

(a) Only 1

(b) Only 2

(c) Neither 1 nor 2

(d) Both

Answer: (b)

140. Out of the 118 elements known to us how many are naturally occurring?

(a) 90

(b) 94

(c) 49

(d) 22

Answer: (b)

Discipline3

141. Which of the following is incorrect?
1.The main credit for classifying elements goes to Johann Wolfgang Döbereiner.
2. The early development of a Periodic Table of elements was created through the arrangement of elements on the basis of their fundamental property, the atomic mass, and also on the similarity of chemical properties.
Choose the correct code:

(a) Only 1

(b) Only 2

(c) Neither 1 nor 2

(d) Both 1 and 2

Answer: (a)

142. Just like halogens, _____ also exists as diatomic molecules and it combines with metals and non-metals to form covalent compounds.

(a) Oxygen
(b) Nitrogen
(c) Carbon
(d) Hydrogen

Answer: (d)

143. The molecules of soap are sodium or potassium salts of long-chain _____ acids.

(a) Hydrochloric
(b) Boric
(c) Carboxylic
(d) Sulphuric

Answer: (c)

144. (I)_____ property of soap interacts with water and (II)_____ property interacts with hydrocarbons.

(a) (I) hydrophilic, (II) hydrophobic
(b) (I) hydrophobic, (II) hydrophilic
(c) (I) hydrophobic (II) hydrocarbolic
(d) (I) hydrocarbolic (II) hydrophilic

Answer: (a)

145. _____ are generally sodium salts of sulphonic ds or ammonium salts with chlorides or bromides ions.

(a) Detergents
(b) Soaps
(c) PVC
(d) Micelles

Answer: (a)

146. Which of the following is correct?
1. Carbon is tetravalent because it has four valence electrons.
2. Covalently bonded molecules are seen to have weak bonds within the molecule, but intermolecular forces are strong.
Choose the correct code:

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

Answer: (a)

147. Which of the following has not been concluded by Rutherford from the α-particle scattering experiment?

(a) The positive charge of the atom occupies very little space.

(b) All the positive charge and mass of the atom were concentrated in a very small volume within the atom.

(c) Most of the space inside the atom is empty.

(d) The atom is indivisible and indestructible.

Answer: (d)

148. Who put forward the following postulate about the model of an atom?
"While revolving in discrete orbits the electrons do not radiate energy."

(a) Neils Bohr

(b) Ernest Rutherford

(c) Werner Heisenberg

(d) John Dalton

Answer: (a)

149. Which of the following sub-atomic particle was discovered by J. Chadwick in 1932?

(a) Electrons

(b) Protons

(c) Neutrons

(d) Neutrinos

Answer: (c)

150. Which of the following is incorrect regarding rules for writing the number of electrons in different energy levels or shells?

(a) The maximum number of electrons present in a shell is given by the formula 2n 2 , where 'n' is the orbit number or energy level index, 1, 2, 3,....

(b) The maximum number of electrons that can be accommodated in the outermost orbit is 8.

(c) Electrons are not accommodated in a given shell, unless the inner shells are filled.

(d) Electrons are accommodated in an outermost cell before the inner shells are filled in case of gases.

Answer: (d)

151. The mass of aluminium is :

(a) 27 u (13 protons + 14 neutrons)

(b) 27 u (12 protons + 15 neutrons)

(c) 27 u (14 protons + 13 neutrons)

(d) 27 u (11 protons + 16 neutrons)

Answer: (a)

152. A solution contains 50 g of common salt in 300 g of water. Calculate the concentration in terms of mass-by-mass percentage of the solution.

(a) 16 Percent

(b) 7 Percent

(c) 14.28 Percent

(d) 11.1 Percent

Answer: (c)

153. Which of the following is an incorrect statement?

(a) A solution is a homogeneous mixture.

(b) The particles of a solution are smaller than 1 nm (10 -9 metre) in diameter.

(c) Because of very small particle size, they do not scatter a beam of light passing through the solution. So, the path of light is not visible in a solution.

(d) The solute particles of a solution can be separated from the mixture by the process of filtration.

Answer: (d)

154. Choose the correct arrangement of the following substances in decreasing order of forces of attraction between the particles— milk, wood, hydrogen.

(a) Wood > milk > hydrogen

(b) Hydrogen > wood > milk

(c) Milk > wood > hydrogen

(d) Hydrogen > milk > wood

Answer: (a)

156. Which of the following are known as suic[illegible]gs?

(a) Golgi bodies

(b) Lysosomes

(c) Mitochondria

(d) Ribosomes

Answer: (b)

157. Which of the following is not a feature of a Prokaryotic cell?

(a) These cells do not have a well-organized nucleus.

(b) The genetic material is a single molecule of DNA lying in the cytoplasm.

(c) Membrane-bound organelles, such as mitochondria, endoplasmic reticulum, lysosome, chloroplast, nucleolus, etc. are present within the cytoplasm.

(d) Bacteria and blue-green algae are examples of this type of cell.

Answer: (c)

159. Where does the fertilization in human females take place?

(a) Fallopian tube
(b) Uterus
(c) Cervix
(d) Blastocoel

Answer: (a)

160. Which of the following contraceptive methods interfere with ovulation and prevent release of ova from the ovaries?

(a) Diaphragms
(b) Copper T
(c) Oral Contraceptive Pills
(d) Tubectomy

Answer: (c)

Discipline4

161. Which of the following diseases is caused by Treponema pallidum?

(a) Gonorrhoea
(b) Syphilis
(c) AIDS
(d) Osteoporosis

Answer: (b)

162. Which of the following is transmitted by the female Culex mosquito?

(a) Malaria
(b) Dengue
(c) Filariasis
(d) Congo fever

Answer: (c)

163. Which of the following is a Protein Energy Malnutrition (PEM)?

(a) Night Blindness
(b) Marasmus
(c) Goitre
(d) Anaemia

Answer: (b)

164. Which of the following minerals' prime function is to maintain growth and keep osmotic balance of cells and blood?

(a) Iron
(b) Calcium
(c) Potassium
(d) Iodine

Answer: (c)

165. What is the name of the insulating fatty sheath that covers the axon of most neurons?

(a) Neurilemma
(b) Synapse
(c) Synaptic cleft
(d) Nodes of Ranvier

Answer: (a)

166. Which of the following meninges of the human brain forms the thin delicate middle layer giving a web-like cushion?

(a) Dura mater
(b) Pia mater
(c) Arachnoid
(d) Ven mater

Answer: (c)

167. Which of the following statements is incorrect?
1. 31 pairs of spinal nerves emerge from the spinal cord.
2. The functions of sympathetic and parasympathetic nervous systems are complementary to each other.

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

Answer: (d)

168. How many chromosomes are there in a sperm and an ovum or an egg of human-beings?

(a) 20
(b) 21
(c) 22
(d) 23

Answer: (d)

169. Which of the following belongs to Eukarya domain of classification?

(a) Lokiarchaeota
(b) Entamoeba
(c) Cyanobacteria
(d) Crenarchaeota

Answer: (b)

170. Consider the following statements about a kingdom – 1. It includes multicellular or many celled organisms.
2. The body is made of network (mycelium) of fine threads called hyphae.
Which of the following is an organism belonging to this kingdom?

(a) Amoeba
(b) Chlamydomonas
(c) Mycobacterium
(d) Mushroom

Answer: (d)

171. Which of the following is an example of Phylum Porifera?

(a) Hydra
(b) Planaria
(c) Sycon
(d) Pin worms

Answer: (c)

172. Which of the following belongs to the same division of Kingdom Plantae?

(a) Ulva, Funaria, Ulothrix
(b) Marchantia, Marsilea, Fern
(c) Riccia, Marchantia, Funaria
(d) Spirogyra, Riccia, Cycas

Answer: (c)

173. Which of the following statements are true regarding Ammonia?

(a) It is readily soluble
(b) It is generally excreted by diffusion across body surfaces or through gill surfaces (in fish)
(c) Kidneys play a significant role in its removal
(d) The process of excreting ammonia is Ammonotelism

Answer: (c)

174. A minute vessel of peritubular capillaries network runs parallel to the Henle's loop forming a '_____' shaped vasa recta.

(a) U
(b) V
(c) D
(d) Z

Answer: (a)

175. An increase in blood flow to the atria of the heart can cause the release of ANF. What is the full form of ANF?

(a) Atrial Natriuretic Factor
(b) Ariel Nephrotic Factor
(c) Angiotensin Natriuretic Factor
(d) Antidiuretic Nephrotic Factor

Answer: (a)

176. The movement of nutrients in a cyclic manner in the environment constitutes which of the following?

(a) Biogeochemical Cycle
(b) Inorganic Life Cycle
(c) Organic Life Cycle
(d) Biosphere Cycle

Answer: (a)

177. Which of the following is the largest source of Nitrogen?

(a) Urban Waste
(b) Geological sources
(c) Livestock and Poultry operations
(d) Atmospheric Nitrogen

Answer: (d)

178. A normal human being on an average breathes how many times in a day?

(a) 43,000 Times
(b) 59,000 Times
(c) 44,000 Times
(d) 22,000 Times

Answer: (d)

179. What percentage does Oxygen contributes in the composition of Air?

(a) 78.03 Percent
(b) 20.09 Percent
(c) 0.94 Percent
(d) 0.033 Percent

Answer: (b)

180. Which of the following is used as oxidant in rockets to burn the fuel?

(a) Liquid Oxygen
(b) Liquid Nitrogen
(c) Liquid Helium
(d) Liquid Argon

Answer: (a)

Discipline5

181. The Excessive use of Fertilizers and pesticides in agriculture has led to which of the following phenomena?
1. Eutrophication
2. Photochemical smog
3. Decantation

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

Answer: (a)

182. Ozone is a molecule formed by how many atom of oxygen?

(a) One
(b) Two
(c) Three
(d) Four

Answer: (c)

183. The main layer of atmosphere from the surface of earth up to 10 kms is called-

(a) Troposphere
(b) Stratosphere
(c) Mesosphere
(d) Thermosphere

Answer: (a)

184. The hardness of water is due to the presence of salts of which of the following?

(a) Magnesium and Potassium
(b) Calcium and Magnesium
(c) Potassium and Calcium
(d) Potassium and Sulphur

Answer: (b)

185. Increased carbon dioxide level in earth's atmosphere leads to the phenomenon of _____.

(a) Acid Rain
(b) Photochemical smog
(c) Greenhouse Effect
(d) Ozone hole

Answer: (c)

186. Which of the following is NOT a domestic source of Soil Pollution?

(a) Plastic Bags
(b) Fertilizers
(c) Kitchen Waste
(d) Glass Bottles

Answer: (b)

187. The Soda Lime process to convert hard water into soft water is also known as?

(a) Clark's Method
(b) Maxwell's Method
(c) Weiner's Method
(d) Bohr's Method

Answer: (a)

188. Which of the following is a micro-nutrient present in the soil essential for plant growth?

(a) Magnesium
(b) Sulphur
(c) Iron
(d) Calcium

Answer: (c)

189. Which of the following are called 'draught animal

(a) Milk-producing female animals
(b) Animals used for farm labour
(c) Egg-producing animals
(d) Poultry Animals

Answer: (b)

190. Which of the following is an example of weed?

(a) Spring Onion
(b) Carrot Grass
(c) Lemon Grass
(d) Basil Plant

Answer: (b)

Teaching Methodology

191. Which of the following can be a source and form of gender discrimination?
1. Government policies
2. Family and parents
Choose the correct code.

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

Answer: (c)

192. According to the Census 2011, what is the child sex-ratio in our country?

(a) 940
(b) 932
(c) 925
(d) 914

Answer: (d)

193. Which of the following is not true?

(a) Prenatal (before birth) and postnatal (after birth) development of human beings follows a pattern or a general sequence.
(b) The direction of development is 'cephalo – caudal' as well as 'proximodistal' direction.
(c) The process of development is continuous sta g from the conception through birth to maturation.
(d) Girls mature earlier in comparison to boys.

Answer: (c)

194. In which year was the first of its kind "All India Seminar on Teaching Science in Secondary School" held at Simla Hills?

(a) 1950
(b) 1953
(c) 1956
(d) 1961

Answer: (c)

195. Which of the following is known as an accepted hypothesis?

(a) Theory
(b) Natural Law
(c) Fact
(d) Evidence

Answer: (a)

196. Who out of the following in his book “Structure of Science” defines Paradigm shift as a scientific revolution?

(a) Karl Popper

(b) Thomas Kuhn

(c) Imre Lakatos

(d) Richard Rorty

Answer: (b)

197. Inductive-Deductive approach is best method for teaching - 1. Science
2. Grammar
3. Mathematics
Choose the correct code.

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 1 and 3

(d) 1, 2 and 3

Answer: (d)

198. Which of the following is not a feature of formative assessment?

(a) Grades do not carry much weight

(b) Frequently administered during the teaching-learning process

(c) Can be flexible as per the needs of the student

(d) Outcome oriented

Answer: (d)

199. Which teaching methods is Socrates an exponent of?

(a) Lecture method

(b) Demonstration method

(c) Tutorial method

(d) Question-answer method

Answer: (d)

200. Which of the following statements is incorrect?

(a) Multi-grade Teaching is a situation where multiple teachers teache several classes at a time.

(b) Multi-grade teaching is seen in the developed as well as in the underdeveloped countries.

(c) Multi-level teaching is related with Mono-grade situation.

(d) Multi-grade teaching is more effective by the appropriate sitting arrangement.

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

General Awareness

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

Arithmetic Ability

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

General English

62	**(a)**	64	**(a)**	65	**(a)**	66	**(a)**	67	**(a)**	69	**(a)**	70	**(a)**	71	**(d)**
72	**(b)**	73	**(d)**	74	**(b)**	75	**(b)**	78	**(b)**						

Discipline1

102	**(b)**	103	**(c)**	104	**(b)**	105	**(b)**	[illegible]	**(a)**	107	**(b)**	108	**(a)**	109	**(c)**
111	**(a)**	113	**(b)**	114	**(b)**	115	[illegible].6		**(c)**	117	**(a)**	118	**(c)**	119	**(a)**

Discipline2

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

Discipline3

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

Discipline4

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

Discipline5

181	**(a)**	182	**(c)**	183	**(a)**	184	**(b)**	185	**(c)**	186	**(b)**	187	**(a)**	188	**(c)**
189	**(b)**	190	**(b)**												

Teaching Methodology

191	**(c)**	192	**(d)**	193	**(c)**	194	**(c)**	195	**(a)**	196	**(b)**	197	**(d)**	198	**(d)**
199	**(d)**	200	**(a)**												