PREVIOUS YEAR PAPER

DSSSB Laboratory Assistant (Chemistry) 2021 — 7 September 2021, Shift 1

DSSSB Other Posts · 7 September 2021 · Shift 1

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

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

Questions from the Delhi Subordinate Services Selection Board's paper of 7 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-chemistry-7-sep-shift-1/

General Ability

1. Find the missing term in the given series.
RES, SFT, TGU, UHV, ___.

(a) WLV
(b) VLW
(c) WIV
(d) VIW

Answer: (d)

2. Out of the given options, three are similar in a cer n manner. However, one option is NOT like the other three. Select the option which is different m the rest.

(a) Ahead
(b) Adverb
(c) Aid
(d) Acid

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) AIDS
(b) Malaria
(c) Zika
(d) Swine flu

Answer: (b)

4. 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) Snake - Hiss

(b) Duck - Quack

(c) Goat - Bleat

(d) Camel - Howl

Answer: (d)

5. Select the option that is related to the fourth term on the same basis as the second term is related to the first term.
Lungs : Covid-19 :: Hypermetropia : ?

(a) Nose

(b) Eyes

(c) Teeth

(d) Liver

Answer: (b)

6. In a certain language,
sun is yellow is written as sir anu med; moon is red is written as med piz tor; red and yellow sun is written as nem piz anu sir.
What is 'and' written as?

(a) sir

(b) nem

(c) piz

(d) anu

Answer: (b)

7. In a certain code language, CHIRAG may be called DI3S1H. So, GOURAV may be called _____.

(a) F2TS5X

(b) X5T2F

(c) H2VS1W

(d) H45S1W

Answer: (d)

8. Pointing towards a photograph, X said “Y is the brother of my husband’s father’s son.” How is Y related to X ?

(a) Husband's Father

(b) Son

(c) Husband's Brother

(d) Brother

Answer: (c)

9. Seven chairs of four different colours are arranged in a vertical height over one another under the following conditions:
1. Counting from the top, the third, fifth and sixth chairs are green.
2. Two black chairs are placed one over the another.
3. Two green chairs are placed between a blue and a red chair.
4. One green chair is between a black chair and a red chair.
Which chair is placed at the bottom?

(a) Green
(b) Black
(c) Red
(d) Blue

Answer: (d)

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- Vaccines provide immunity for a specific time frame in case of certain viral diseases like Covid-19.
Reason- The virus changes its genetic code from time to time.

(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 assumptions 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 assumptions, if any, is implicit in the given statement.
Statement-National Education Policy of 2020 is framed in which students are given freedom to study the subjects of their choice making them ready for different vocational jobs.
Assumption I- Students would like it if they got to choose subjects of their liking to study.
Assumption II- One objective of education is to prepare students for a career or a job.

(a) Only assumption I is implicit
(b) Only assumption II is implicit
(c) Either assumption I or assumption II is implicit
(d) Both assumption I and II are implicit

Answer: (d)

12. Identify the wrong term in the series.
4913, 6958, 9261, 12167

(a) 4913
(b) 6958
(c) 9261
(d) 12167

Answer: (b)

13. Complete the following series.
24, 60, 210, ___

(a) 5197.5
(b) 945
(c) 549
(d) 5000

Answer: (b)

15. I am 180 degrees left to North? Find the direction I am facing right now.

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

Answer: (d)

16. Rahul is driving towards east. He finds massive landslide on the road and turns 90 degrees to his left and moves another 200 m and then heads towards his home in the clockwise direction at 135 degrees. In which direction Rahul is moving now ?

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

Answer: (a)

General Awareness

21. The study of images of deities is called _____.

(a) iconography
(b) photography
(c) pictography
(d) imagography

Answer: (a)

22. Pt. Birju Maharaj is well known for _____.

(a) Kuchipudi
(b) Odissi
(c) Bharatanatyam
(d) Kathak

Answer: (d)

23. Which among the following was the span of first "five year plan" of India?
    (a) 1951-1956
    (b) 1952-1958
    (c) 1950-1955
    (d) 1955-1960
    Answer: (a)

24. The word "Economics" has been derived from which language?
    (a) Italian
    (b) Greek
    (c) Latin
    (d) French
    Answer: (b)

25. Which of the following is the main cause for transmission of the 'Hepatitis C ' virus?
    (a) Bite of Mosquito
    (b) Contaminated food
    (c) Sharing Drug Needle
    (d) Sharing Cloth
    Answer: (c)

26. Which of the following is the main component of c ar gas?
    (a) Carbon Dioxide
    (b) Methane
    (c) Propane
    (d) Oxygen
    Answer: (b)

27. _____ is responsible for depletion of Ozone layer in atmosphere?
    (a) Nitrous Oxide
    (b) Carbon dioxide
    (c) Chlorofluorocarbon
    (d) Carbon Monoxide
    Answer: (c)

29. Which river divides peninsular block of India into two parts?
    (a) Narmada
    (b) Mahanadi
    (c) Ganga
    (d) Kaveri
    Answer: (a)

30. Who among the following died in 1948?
    (a) Bal Gangadhar Tilak
    (b) Subhash Chandra Bose
    (c) Bhagat Singh
    (d) Mahatma Gandhi
    Answer: (d)

31. When was Indian 'Independence Act' Passed in British Parliament?
    (a) 18 July, 1947
    (b) 2 March, 1947
    (c) 15 August, 1947
    (d) 10 August, 1947
    Answer: (a)

32. Who was the Governor General of India during the 1857 revolt?
    (a) Charles Canning
    (b) Warren Hastings
    (c) John Adam
    (d) John Shore
    Answer: (a)

33. Vasco da Gama landed in India at _____.
    (a) Bombay
    (b) Madras
    (c) Calicut
    (d) Calcutta
    Answer: (c)

34. "Bharat Ratna'' Award was instituted/established in which year?
    (a) 1954
    (b) 1950
    (c) 1947
    (d) 1948
    Answer: (a)

35. The book ''Buddha Or Karl Marx'' written by _____.
    (a) C. Rajagopalachari
    (b) Jawaharlal Nehru
    (c) Mahatma Gandhi
    (d) Dr. B.R. Ambedkar
    Answer: (d)

36. The drafting committee of Indian Constitution was headed by:
(a) Dr Rajendra Prasad
(b) Dr. B. R. Ambedkar
(c) C. Rajagopalachari
(d) Sachchidananda Sinha
Answer: (b)

37. The 44th amendment of Indian constitution is about:
(a) Right to property
(b) Right to equality
(c) Right to education
(d) Right to Speech
Answer: (a)

38. The Olympic Games are held every:
(a) 6 Years
(b) 5 Years
(c) 2 years
(d) 4 years
Answer: (d)

39. In which year, were the Asian Games held for the [illegible] time?
(a) 1951
(b) 1952
(c) 1976
(d) 1965
Answer: (a)

40. Polo was played by nomads, who migrated to a country now called as _____ some time between 600 B.C. and 100 A.D.
(a) Australia
(b) China
(c) Iran
(d) Russia
Answer: (c)

Arithmetic Ability

41. 5 + 5 × 5 ÷ 5 – 5 is _____.
(a) 10
(b) 5
(c) 4
(d) 15
Answer: (b)

42. In an examination a student was asked to find 1/12 of a certain number. By mistake, he found 1/2 of it. His answer was 50 more than the correct answer. Then the number is _____.

(a) 165
(b) 178
(c) 180
(d) 120

Answer: (d)

43. If a shopkeeper gives 10% discount and then 20% discount on a book which has the marked price 300, how much would be the selling price of the book?

(a) Rs 263
(b) Rs 244
(c) Rs 224
(d) Rs 216

Answer: (d)

44. How much percent above the cost price should a shopkeeper mark his goods so that after allowing a discount of 25% on the marked price, he gains 50%?

(a) 80%
(b) 100%
(c) 85%
(d) 50%

Answer: (b)

45. The number 0.1 is what percent of 20?

(a) 0.5%
(b) 1%
(c) 5%
(d) 0.05%

Answer: (a)

46. The side of a triangle is increased by 10%. What is the percentage increase in its area?

(a) 22%
(b) 21%
(c) 20%
(d) 50%

Answer: (b)

47. A man sells his type writer at 10 % loss. If he sell it for Rs. 90 more, he gains 5%. The cost price of the type writer is Rs _____.

(a) 1200
(b) 800
(c) 600
(d) 1000

Answer: (c)

48. A man buys two articles for Rs.1800 sells one at a loss of 8% and on the other at gain of 10%. On whole he neither gains or loses. What was the price of each article (in Rs)?

(a) 1000 ; 800
(b) 1300 ; 900
(c) 1010 ; 850
(d) 900 ; 800

Answer: (a)

49. If (y - x) ÷ x = 3 ÷ 8. Find y : x.

(a) 8:11
(b) 11:8
(c) 8:5
(d) 5:8

Answer: (b)

50. A purse contain 1 rupee, 50 paise and 25 paise coins in the ratio 5 : 6 : 7. If the total money in the purse is Rs. 273. The number of 50 paise coins in the purse will be:

(a) 100
(b) 196
(c) 168
(d) 152

Answer: (c)

51. Find the compound interest, if Rs 6500 was inve d for 2 years at 8% p.a.

(a) Rs 1018.6
(b) Rs 1800.14
(c) Rs 1017.4
(d) Rs 1081.6

Answer: (d)

52. How much will Rs. 512 amount to in one year at 12.5% per annum, when the interest is compounded half yearly?

(a) Rs 556
(b) Rs 596
(c) Rs 645
(d) Rs 578

Answer: (d)

53. Two runners A and B start running at 22 kmph and 8 kmph towards each other. They meet after 2 hours. How far (in km) were they from each other when they started?

(a) 28 km
(b) 60 km
(c) 50 km
(d) 64 km

Answer: (b)

54. A train 480 metre long, is running with a speed of 72 km/hr. In how much time will it pass a tunnel of 240 metre long?

(a) 54 seconds
(b) 48 seconds
(c) 36 seconds
(d) 42 seconds

Answer: (c)

55. A and B together can do a piece of work in 10 days, but A alone can do it in 15 days. How many days would B alone take to do the same work?

(a) 25 days
(b) 30 days
(c) 28 days
(d) 32 days

Answer: (b)

56. P is 25% more efficient than Q. How much time will they working together, take to complete a job which P alone could have done in 45 days ?

(a) 22 days
(b) 25 days
(c) 35 days
(d) 30 days

Answer: (b)

57. Radius of largest sphere which can be m[illegible]de fr[illegible] sculpting a wooden cube of 7 cm is _____cm.

(a) 7
(b) $7\sqrt{2}$
(c) 3.5
(d) 14

Answer: (c)

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'.
Sarah and me had/ a great time while/ the kids were away.

(a) Sarah and me had
(b) a great time while
(c) the kids were away.
(d) No Error

Answer: (a)

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'.
It's an electric vehicle that/ looks like a cross between/ a motorcycle and a unicycle.

(a) It's an electric vehicle that

(b) looks like a cross between

(c) a motorcycle and a unicycle.

(d) No Error

Answer: (d)

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.
Twelve passengers (were arrested in the Netherlands for investigation).

(a) were arrested in Netherlands for investigation

(b) were arrested in Netherlands under investigation

(c) were arrested in Netherlands for investigation purposes

(d) No correction required

Answer: (d)

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.
China is (now one of the largest trader in the world).

(a) now one of the larger trader in the world

(b) now one of the largest traders in the world

(c) now one of the largest trader over th

(d) No correction required

Answer: (b)

65. Fill in the blank with the most appropriate choice
Meanwhile the number of sixty-five-and-older people will _____, it will grow almost 55 percent.

(a) burgeon

(b) belie

(c) bolster

(d) deflect

Answer: (a)

66. Fill in the blank with the most appropriate choice
The constant sound of Calcutta is the _____ of horns and the descant of millions of crows.

(a) cacophony

(b) calumny

(c) canon

(d) chicanery

Answer: (a)

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.
Putin has absolutely
P. no experience in
Q. demonstrates no political
R. acumen in these
S. high politics, and interviews.

(a) RPSQ
(b) RQSP
(c) PSQR
(d) PRSQ

Answer: (c)

68. The question below consist of a set of labelled sentences. Out of four options given, select the most logical order of the sentences which form a paragraph.
During World War I (1914–18) the British government of India enacted a series of repressive emergency powers that were intended to combat subversive activities.
P. By the war's end, expectations were high among the Indian populace that those measures would be eased and that India would be given more political autonomy.
Q. The Montagu-Chelmsford Report, presented to the British Parliament in 1918, did in fact recommend limited local self-government.
R. The acts were met by widespread anger and discontent among Indians, notably in the Punjab region.
S. Instead, however, the government of India passed what became known as the Rowlett Acts in early 1919, which essentially extended the repressive wartime measures.
Gandhi in early April called for a one-day general strike throughout the country.

(a) PQRS
(b) PSQR
(c) PRSQ
(d) PQSR

Answer: (d)

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

(a) agitated
(b) depressed
(c) exuberant
(d) lethargy

Answer: (c)

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

(a) facetious
(b) gainsay
(c) banal
(d) infrequent

Answer: (d)

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

(a) deravitive
(b) desultory
(c) discrepancy
(d) diatribe

Answer: (a)

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

(a) irresolute
(b) iresolute
(c) irresulute
(d) iressolute

Answer: (a)

73. Select the most appropriate meaning of the given idiom Don’t pull all your eggs in one basket

(a) Do not pull all your resources in one possibility
(b) Going above and beyond whatever is required for the task at hand
(c) A personal intuition you get, especially when feel something may not be right
(d) A place where people gather to buy and sell inexpensive goods

Answer: (a)

74. Select the most appropriate meaning of the give idiom Cock and bull story

(a) An unbelievable tale, untrue story
(b) Living in luxury
(c) A secret policy for an evil purpose
(d) Before the time necessary to do something

Answer: (a)

75. Select the most appropriate 'one word ' for the expressions given below Burial of a corpse in a grave or tomb

(a) Ghetto
(b) Interment
(c) Inundate
(d) Inveterate

Answer: (b)

76. Prior to the advancement in technology allowing sound to be implemented, what kind of movies would dominate the cinema?

(a) Silent movies
(b) Talking movies
(c) Colour movies
(d) 3D movies

Answer: (a)

78. By the end of which war did more and more movies filmed in colour?
(a) World War 1
(b) World War 2
(c) American Civil War
(d) Vietnam War
Answer: (b)

79. By which decade had the colour film become the standard norm for filmmakers?
(a) By the end of 1960s
(b) At the start of 1960s
(c) By the mid of 1960s
(d) By the end of 1970s
Answer: (a)

Discipline1

101. Which of the following is measure of ability of an atom to attract electrons?
(a) Electron gain enthalpy
(b) Electronegativity
(c) Ionization enthalpy
(d) Electropositivity
Answer: (b)

102. In a condition where "Z" is group number, S ec s the number of shared electrons, and U is the number of unshared electrons. What w th rmula for Formal charge?
(a) Z-S÷2-U
(b) Z+U-S÷2
(c) U+S÷2-Z
(d) Z+U+S÷2
Answer: (a)

103. The following quantum numbers are possible for many orbitals : n=4, l=2, m=+2
(a) 1
(b) 3
(c) 4
(d) 2
Answer: (a)

104. What is meant by Triple point of water?
(a) When all the three states of water co-exist
(b) When water boils at 300 degree Celsius
(c) When water exists as ice
(d) When water exits in its elemental form
Answer: (a)

105. Which of the following shows ferroelectrical property?

(a) Barium titanate

(b) Gallium titanate

(c) Lead zirconate

(d) Vanadium oxide

Answer: (a)

106. Name the Instrumental technique used to demonstrate the presence of functional group :

(a) Alpha Rays spectroscopy

(b) Xray spectroscopy

(c) Infrared spectroscopy

(d) Beta - spectroscopy

Answer: (c)

107. The anti addition of a halogen to an alkene provides us with an example of what is called :

(a) Stereospecific

(b) Chiral

(c) Enantiomers

(d) Diaxial

Answer: (a)

108. Who shared the 1996 noble prize in Chemistry fc scovery of buckminsterfullerene C?

(a) Kroto

(b) Frindrich

(c) August kekule

(d) Debye

Answer: (a)

109. What is the minimum temperature at which the process will be spontaneous, when Δ S = 120 Jk -1 mol -1 and ΔH= 180 KJ ?

(a) 666k

(b) 1000k

(c) 1510k

(d) 798k

Answer: (c)

110. The mass of 1 x 10^{22} molecules of Na2SO4 :

(a) 3.1g

(b) 2.36g

(c) 2.7g

(d) 4.3g

Answer: (b)

111. Calculate the freezing point of a solution of NaCl in water which boils at 117.2 degree.

(a) -62.48

(b) 46.5

(c) -65.5

(d) -87.4

Answer: (a)

112. Which of the following is correct order of stability?

(a) SF <SeF <TeF 6 6 6

(b) TeF <SeF >SF 6 6 6

(c) Te <Se <SF 6 6 6

(d) TeF >SeF <SF 6 6 6

Answer: (c)

113. H S is also known as:
2

(a) Sulphonated hydrogen

(b) Sulphureted hydrogen

(c) Sulphonic Hydrogen

(d) Sulphurated Hydrides

Answer: (b)

114. By which process Chlorobenzene is prepared co mercially?

(a) Raschig process

(b) Swarts process

(c) Finkelstein process

(d) Sandmeyer process

Answer: (a)

115. In which reaction the silver salt of carboxylic acids on reaction with Br in refluxing CCl undergoes decarboxylation to form alkyl and aryl 2 4
bromide?

(a) Borodine-Hunsdiecker reaction

(b) Saytzeff reaction

(c) Hofmann elimination

(d) Swarts reaction

Answer: (a)

116. 96500 C of electricity liberates from CuSO 4

(a) 63.5g of Cu

(b) 31.74g of Cu

(c) 96500g of Cu

(d) 100g of Cu

Answer: (b)

117. Which of the following is not a type of electrode ?

(a) gas electrode

(b) calomel electrode

(c) redox electrode

(d) concrete electrode

Answer: (d)

118. The IUPAC name of K3[Co(CN)5NO].

(a) potassium pentacyanonitrosocobaltate(II)

(b) potassium cyanopentanitrocobalt(III)

(c) potassiumpentanitrocobalt(III)

(d) Potassium pentacyano nitrosyl cobaltate(II)

Answer: (d)

119. Name the reaction in which triphenylmethyl radical is prepared by treating triphenylmethyl chloride with a metal like Silver or Zinc in presence of diethyl ether or benzene?

(a) Gattermann reaction

(b) Sandmeyer reaction

(c) Gomberg- Free radical reaction

(d) Coupling reaction

Answer: (c)

120. Which of the following is test for secondary ami

(a) carbylamine test

(b) azo dye test

(c) Liebermann nitroso test

(d) solubility test

Answer: (c)

Discipline2

121. Which amines are potent carcinogens?

(a) nitroamines

(b) amine

(c) nitrosomethylamine

(d) nitrosoamines

Answer: (d)

122. Radioactive disintegration is which order reaction?

(a) zero order

(b) First order

(c) second order

(d) pseudo first order

Answer: (b)

123. Formula for activation energy:

(a) Threshold energy - average kinetic energy of the reactants

(b) Threshold energy + average kinetic energy of the reactants

(c) Average kinetic energy - threshold energy

(d) transition energy - threshold energy

Answer: (a)

124. _____ are lipids found in the membrane of animal muscle and nerve cell.

(a) mycricyl

(b) cephalin

(c) cerebrosides

(d) lecithin

Answer: (c)

126. Which of the following is not a part of quantum mechanics?

(a) electromagnetism

(b) nuclear force

(c) gravity

(d) momentum

Answer: (c)

127. Which is the most powerful spectroscopy that ca ve you a great idea about the structure of organic molecules?

(a) NMR

(b) Xray spectroscopy

(c) Infrared spectroscopy

(d) UV Ray Spectroscopy

Answer: (a)

128. Which of the following is formula of Calaverite?

(a) AuTe 2

(b) AuTe 4

(c) AuTe 3

(d) AuTe 5

Answer: (a)

129. Which compound is used to estimate the hardness of water?

(a) EDTA

(b) BHA

(c) BHT

(d) ETDA

Answer: (a)

130. What is the shape of compound : [Cr(NH)] 3+ ?
3 6

(a) Square planner

(b) Linear

(c) Tetrahedral

(d) Octahedral

Answer: (d)

131. Name the reaction:
Phenol + Benzoyl Chloride in the presence of NaOH gives Phenyl benzoate + hydrochloric acid

(a) Elbs persulphate oxidation

(b) Reimer - Tiemann reaction

(c) Schotten - Baumann reaction

(d) Liebermann nitroso reaction

Answer: (c)

132. _____ can give precise structural data for some molecules.

(a) X-ray crystallography

(b) Infrared spectroscopy

(c) gamma ray crystallography

(d) chromatography

Answer: (a)

133. _____ is the continuous spectrum of energy-[illegible]aring waves ranging from extremely short waves, such as high-energy X-rays .

(a) Qualitative analysis

(b) Quantitative analysis

(c) Analysis

(d) Spectroscopy

Answer: (d)

134. which connect an atom with the next in a continuous network, involve any element of the periodic table and the resulting bond-types vary mostly from ionic to completely covalent?

(a) metallic solid

(b) ionic solids

(c) Covalent solid

(d) Extended solids

Answer: (d)

135. Which of the following is the most common method used for synthesizing inorganic solids?

(a) Ceramic method

(b) molecular method

(c) covalent method

(d) surface method

Answer: (a)

136. Using the _____ as a 'driving force', it was possible to intercalate oxygen into oxide networks, at room temperature.

(a) bonding potential
(b) covalent potential
(c) chemical potential
(d) electrochemical potential

Answer: (d)

137. Which of the following has very high bone bonding ability and osteoconductivity?

(a) Hydroxyapatite
(b) Hydroxylamine
(c) Hydrogen peroxide
(d) Calcium oxide

Answer: (a)

138. Which inorganic compound is used in vulcanisation of black rubber?

(a) iron
(b) sulphur
(c) carbon
(d) boron

Answer: (b)

139. Name the synthetic polymer that is widely used a non-stick surface in cookware.

(a) Thermoplastic polyurethanes
(b) Polytetrafluoroethylene
(c) Polystyrene
(d) High-density polyethylene

Answer: (b)

140. In which University, graduate students in the department of Chemical Engineering use digital computers in their doctoral research?

(a) University of Michigan
(b) Stanford University
(c) University of Oxford
(d) University of Cambridge

Answer: (a)

Discipline3

141. Which of the following computer aid is use to perform steady state heat and mass balancing , sizing and costing for chemical process ?

(a) documentation
(b) excel sheeting
(c) Flowshedding
(d) Flowsheeting

Answer: (d)

142. Which is a decision support tool dedicated to the management of plants that produce energy under the form of utilities?

(a) Erimino
(b) Eriane
(c) Amione
(d) Ariane

Answer: (d)

143. Who is regarded as founder of inorganic quantitative and qualitative analysis?

(a) Torbern Bergman
(b) Linus Pauling
(c) Joseph Priestley
(d) Svante Arrhenius

Answer: (a)

144. What is the principle of separation in Fractiona stillation?

(a) melting point
(b) vapour pressure
(c) boiling point
(d) freezing point

Answer: (c)

145. The techniques that measure absorption in order to perform an assay are absorptiometry or absorption is called :

(a) Chromatography
(b) Spectrometry
(c) Diffraction
(d) Interference

Answer: (b)

146. Which of the following is the process through which potential new therapeutic entities are identified, using a combination of computational, experimental, translational, and clinical models?

(a) Chemical design
(b) Salt analysis
(c) Chemical formation
(d) Drug design

Answer: (d)

147. Which is found to be the best matching between two molecules in drug design?

(a) docking
(b) locking
(c) modelling
(d) bonding

Answer: (a)

148. Which of the following is obtained by copolymerization of 1,2- dichloroethane with sodium tetrasulphide?

(a) Polyethene
(b) Thiokol
(c) Bakelite
(d) Melamine

Answer: (b)

149. Full form of PDI is _____.

(a) polymer dispersity index
(b) polydispersity index
(c) polythene dispersity index
(d) polymer distributing index

Answer: (b)

150. Which of the following is an alternating polyami

(a) amide
(b) melamine
(c) Bakelite
(d) nylon-2-nylon-6

Answer: (d)

151. Which of the following is not a research method?

(a) data analysis
(b) survey
(c) field research
(d) experiment

Answer: (d)

152. Which of the following is not a category of research?

(a) empirical
(b) applied
(c) basic
(d) advanced

Answer: (d)

153. Which of the following is not a procedural step for research?

(a) report writing
(b) research protocol
(c) identify problem
(d) discussion

Answer: (d)

154. What is the percentage of krypton gas in the atmosphere?

(a) 0.00015%
(b) 0.000114%
(c) 0.0002%
(d) 0.0000023%

Answer: (b)

155. The amount of oxygen consumed by the pollutants in mg/L is called _____of a given sample.

(a) Chemical oxygen demand
(b) Curable oxygen demand
(c) Common oxygen demand
(d) Controlled oxygen demand

Answer: (a)

156. Another name for photochemical smog is :

(a) London smog
(b) Los Angeles smog
(c) Canada smog
(d) Indian smog

Answer: (b)

157. which of the following material is used for making protective cloths of car -race drivers, firefighters.

(a) Normex
(b) lexam
(c) Bakelite
(d) plastic

Answer: (a)

158. Which of the following compound is very noxious?

(a) acrolein
(b) nitrous oxide
(c) ferons
(d) carbon

Answer: (a)

159. Hard water contains which ions?

(a) Na + ,Cl^-

(b) Mg 2+ ,He 2+

(c) Ca 2+ ,Mg 2+

(d) Cl^-, Mg 2+

Answer: (c)

160. Which of following is not a steps that is performed during a chemical analysis?

(a) sampling

(b) Discussion

(c) laboratory treatment

(d) field sample pre-treatment

Answer: (b)

Discipline4

161. Which of the following is not a type of chromatography?

(a) gas - solid chromatography

(b) liquid - soild chromatography

(c) gas - liquid chromatography

(d) ion exchange chromatography

Answer: (c)

162. Which of the following is analytical technique used for the separation of compounds soluble in a particular solvent?

(a) High Performance Liquid Chromatography

(b) ion exchange of chromatography

(c) Solvent chromatography

(d) Solute Chromatography

Answer: (a)

163. Nanocrystalline materials manufactured by the sol-gel method give rise to foam-like structures known as_____.

(a) aerogels

(b) aerosols

(c) foam

(d) sol

Answer: (a)

164. Which heavy alloys and composites are being assessed for use as alternative DU penetrators?

(a) noncrystalline chromium

(b) noncrystalline tungsten

(c) noncrystalline bronze

(d) noncrystalline copper

Answer: (b)

165. Which of the following is a classical method of quantitative analysis?

(a) Gravimetric analysis
(b) spectroscopy
(c) calorimetry
(d) Voltmetry

Answer: (a)

166. Which method is used to measure the heat of a chemical reaction?

(a) goniometry
(b) Calorimetry
(c) Spectroscopy
(d) Titration

Answer: (b)

167. Which was the first alloy ever made and resulted in stronger weapons and tools?

(a) steel
(b) copper
(c) bronze
(d) aluminium

Answer: (c)

168. Which of the following is test for mutagenicity ?

(a) Ames test
(b) Widal test
(c) Aldol test
(d) Fehling's test

Answer: (a)

169. A more complex and less defined syndrome is known as:

(a) Multiple sclerosis syndrome
(b) multiple chemical sensitivity
(c) sensitivity syndrome
(d) Mild sensitivity

Answer: (d)

170. What type of biosensors are widerly stuided in cells ?

(a) Transistor-based
(b) Transport based
(c) Transit based
(d) membrane based

Answer: (d)

171. What is the full form of NADH?
(a) nicotinamide adenine dinucleotide
(b) nucleotide adenine nicotinamide
(c) nicotinamide adenosine dinucleotide
(d) nicotine adenine dinucleotide
Answer: (a)

172. Which is the major product of catabolism of purine nucleosides, adenosine and guanosine?
(a) Urate
(b) Malate
(c) Adinosate
(d) serate
Answer: (a)

173. The most powerful psychedelic drug is:
(a) LSD
(b) AZT
(c) Morphine
(d) chloramphenicol
Answer: (a)

174. Which of the following is not an antidepressant d ?
(a) celexa
(b) prozac
(c) mifepristone
(d) desyrel
Answer: (c)

175. Ethylhexyl Methoxycinnamate is included in composition of :
(a) shampoo
(b) detergent
(c) hair oil
(d) fairness cream
Answer: (d)

176. Which of the following is not involved in the composition of perfumes?
(a) triclosan
(b) ethyl alcohol
(c) aspirin
(d) diethyl phthalate
Answer: (c)

177. Which is the most widely use pesticides?

(a) Butachlor
(b) Chlorpyrifos
(c) Captan
(d) Benfuracarb

Answer: (b)

178. Which of the following pesticide is used in India?

(a) Captan
(b) (B) - BHC
(c) Dicofol
(d) Dimethoate

Answer: (b)

179. Full form of BHC pesticide is:

(a) benzoicheaxachloride
(b) benzene hexachloride
(c) Bromine hexachloride
(d) beta-Hexachlorocyclohexane

Answer: (b)

180. Which of the following is incorrect with respect t ajan's rule?

(a) More charge on cation and anion, more is the valent character
(b) Larger the anion, more will be its polarizabil
(c) Cations having 24 electrons in outer bring greater polarisation
(d) Smaller the size of cation ,larger its polaris g power

Answer: (c)

Discipline5

181. Glyceryl trinitrate is also called as:

(a) Aerolein
(b) Crude oil
(c) Crown oil
(d) Nobel's oil

Answer: (d)

182. Nucleophilic substitution reactions in which the solvent acts as the nucleophile are called:

(a) solvolysis reaction
(b) Swarts reaction
(c) Schotten - Baumann reaction
(d) Groov's process

Answer: (a)

184. What is composition of Rectified spirit?

(a) 95.6% of alcohol and 4.4 % of water

(b) 5.6% of alcohol and 7.4 % of water

(c) 76.6% of alcohol and 86.4 % of water

(d) 95.6% of alcohol and 7.4 % of water

Answer: (a)

185. What is another name of Ethanol ?

(a) Brain alcohol

(b) grain alcohol

(c) corn alcohol

(d) millet alcohol

Answer: (b)

186. Name the reaction in which when phenyl esters on heating with anhydrous aluminium chloride in the presence of carbon sulphide gives a mixture of o- and p- hydroxyketones.

(a) Elbs persulphate oxidation

(b) Fries rearrangement

(c) Phthalein reaction

(d) Kolbe's reaction

Answer: (b)

187. Which of the following is formula of Activity?

(a) Activity coefficient × Molarity

(b) Activity coefficient × molality

(c) Activity coefficient × normality

(d) Morality × Normality

Answer: (a)

188. From where we can obtain Salicylaldehyde?

(a) bitter almonds

(b) vanilla beans

(c) Meadowsweet

(d) cinnamon

Answer: (c)

189. Which element of group 13 does not decompose on heating?

(a) boron

(b) aluminium

(c) gallium

(d) thallium

Answer: (a)

190. Choose the incorrect statement with respect to to factors affecting rate of reaction .

(a) Greater the concentration faster the reaction

(b) Catalyst increases the rate of reaction

(c) the rate of reaction is not dependent on time

(d) greater the surface area , faster the reaction

Answer: (c)

191. Which of the following is Bordeaux mixture ?

(a) Copper sulphate + lime water

(b) Copper sulphate +water

(c) Copper oxide + Water

(d) Copper oxide + lime water

Answer: (a)

192. Which is the most abundant transition metal?

(a) Iron

(b) copper

(c) cobalt

(d) zinc

Answer: (a)

193. What is the value of spin only magnetic moment $_{21}Sc^{3+}$?

(a) 0B.M.

(b) 1.73 B.M.

(c) 1B.M.

(d) 1.65 B.M.

Answer: (a)

194. Alloys containing mercury as one of the constituent elements are called _____.

(a) amalgam

(b) mercury oxide

(c) amalgam oxide

(d) mercury alloy

Answer: (a)

195. What is the full form of LUMO?

(a) Lowest unoccupied molecular orbital

(b) Least unpaired molecular orbital

(c) Lowest unpaired molecular orbital

(d) Least unoccupied molecular orbital

Answer: (a)

196. Complete the reaction : K2[PtCl4] + CH2=CH2 ----------⟶

(a) K[PtCl3(C H)] + KCl 2 4

(b) K[(PtCl4)C H] + KCl 2 4

(c) [PtCl4(C H)] + KCl 2 4

(d) K[Pt(C H)] + Cl 2 4 2

Answer: (a)

197. Predict the shape of [Mn (CO)].
2 10

(a) two trigonal pyramidal

(b) tetrahedral

(c) trigonal pyramidal

(d) two square pyramidal

Answer: (d)

198. Which of the following is not a type of Smog?

(a) London smog

(b) Sulphurous smog

(c) Los Angeles smog

(d) Unites nation smog

Answer: (d)

199. Which of the following is an example of cationic tergent?

(a) Ethoxylate nonylphenol

(b) Sapamine

(c) Mifepristone

(d) Valium

Answer: (b)

200. Which of the following drugs is used in stress relief?

(a) Chloramphenicol

(b) Reserpine

(c) Penicillin

(d) Morphine

Answer: (b)

Answer key

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

General Ability

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

General Awareness

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

Arithmetic Ability

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

General English

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

Discipline1

101	**(b)**	102	**(a)**	103	**(a)**	104	**(a)**	105	**(a)**	106	**(c)**	107	**(a)**	108	**(a)**
109	**(c)**	110	**(b)**	111	**(a)**	112	**(c)**	113	**(b)**	114	**(a)**	115	**(a)**	116	**(b)**
117	**(d)**	118	**(d)**	119	**(c)**	120	**(c)**								

Discipline2

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

Discipline3

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

Discipline4

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

Discipline5

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