PREVIOUS YEAR PAPER

DSSSB Senior Scientific Assistant (Physics) 2021 — 27 September 2021, Shift 3

DSSSB Other Posts · 27 September 2021 · Shift 3

160 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: 40 (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 27 September 2021, Shift 3. Each question is followed by its answer, and the answer key is repeated on the last page.

Take it as a timed practice test: exambharo.com/dsssb-other-posts/previous-year-papers/dsssb-other-posts-2021-senior-scientific-assistant-physics-27-sep-shift-3/

General Ability

1. A series is given with one term wrong. Select that WRONG term from the given alternatives.
UQ, SU, QY, OB, MG

(a) SU
(b) QY
(c) OB
(d) MG

Answer: (c)

2. A series is given with one term missing. Select th ORRECT alternative from the given ones that will complete the series.
ML14, OI46, QF78, SC110, UZ142, ?

(a) WW174
(b) XX174
(c) XW184
(d) WW184

Answer: (a)

3. In the following question, select the odd word from the given alternatives.

(a) Red
(b) Big
(c) Thin
(d) Tall

Answer: (a)

4. In the following question, select the related letters from the given alternatives.
SV : XR :: LC : ?

(a) PW
(b) QY
(c) RW
(d) YQ

Answer: (b)

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

(a) JVR : IEQ
(b) WPM : NKC
(c) XHQ : JSB
(d) BEN : YVM

Answer: (a)

6. In a certain code language, 'PLAYER' is written as '536819', 'COME' is written as '4271'. What is the code for 'YEAR' in that code language?

(a) 8139
(b) 7139
(c) 8169
(d) 7168

Answer: (c)

7. In a certain code language, 'India won th[illegible]ld' i[illegible]ritten as '# * ÷ (', 'You wear gold' is written as '(@ &', 'Ladies like India' is written as '% * $'. [illegible] the code for 'Ladies like the won' in that code language?

(a) # ÷ ($
(b) (# ÷ %
(c) $ # ÷ %
(d) % $ # @

Answer: (c)

8. Five boys A, B, C, D and E have different salaries. The salary of C is more than the salary of D. The salary of A is more than the salary of E. The salary of A is less than the salary of B. The salary of C is less than the salary of E. How many boys have more salary than the salary of B?

(a) 0
(b) 1
(c) 2
(d) 3

Answer: (a)

9. Six cars A, B, C, D, E and F were sold on six different days of a same week starting from Monday to Saturday (not necessarily in the same order). Only one car is sold on one day. More than two cars were sold between B and C. One car was sold between D and E. A was sold just before F. C was not sold on Monday. D was sold on Thursday. Which car was sold on Wednesday?

(a) A

(b) C

(c) E

(d) F

Answer: (d)

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

(a) Only conclusion I follows

(b) Only conclusion II follows

(c) Both conclusion I and II follows

(d) Neither conclusion follows

Answer: (a)

11. In the following question below are given some statements followed by some conclusions based on those statements. Taking the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements.
Statements:
I. All P are Q.
II. No P are Z.
Conclusions:
I. Some Q are not Z.
II. Some Z are not Q.
III. Some Q are P.

(a) Both conclusion I and II follows

(b) Both conclusion II and III follows

(c) Both conclusion I and III follows

(d) All conclusion follows

Answer: (c)

13. In the following question, select the missing number from the given series.
2, 4, 8, 32, 256, ?

(a) 882
(b) 892
(c) 8092
(d) 8192

Answer: (d)

15. Point P is 4 metre east of Point Q. Point R is 3 metre north of Point Q. Point S is 6 metre south of Point R. How is point P from Point S?

(a) 4 metre
(b) 5 metre
(c) 8 metre
(d) 10 metre

Answer: (b)

General Awareness

21. Which of the following is NOT a percussion instrument?

(a) Kamaicha
(b) Tabla
(c) Ankya
(d) Alingya

Answer: (a)

22. In which state of India, Iravatanesvara Te[illegible] situated?

(a) Maharashtra
(b) Tamil Nadu
(c) Karnataka
(d) Kerala

Answer: (b)

23. What is the ratio of the stock of money to the stock of high-powered money in an economy is called?

(a) Money supply
(b) Money exchange
(c) Money credit
(d) Money multiplier

Answer: (d)

24. Price elasticity of demand for a good depends on the _____.
I. nature of good
II. availability of close substitutes

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

Answer: (c)

25. Which of the following is NOT an abiotic components of ecosystem?

(a) Temperature
(b) Soil
(c) Rainfall
(d) Plants

Answer: (d)

26. Main constituent of biogas is _____.

(a) Butane
(b) Methane
(c) Ethane
(d) Propane

Answer: (b)

27. Which of the following statement is NOT correct
I. Water vapour gets added to air by evapo[illegible]n a[illegible]transpiration.
II. The circulation of water between ocean a[illegible]s known as the water cycle.

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

Answer: (d)

28. Which of the following is NOT a method of soil conservation?

(a) Mulching
(b) Terrace farming
(c) Contour ploughing
(d) Mitigation mechanism

Answer: (d)

29. India is _____ largest producer of rice in the world.

(a) third
(b) second
(c) fourth
(d) sixth

Answer: (b)

30. Ravikirti was a court poet of _____.
    (a) Harshvardhan
    (b) Kanishka
    (c) Pulakeshin II
    (d) Chandragupta Mourya
    Answer: (c)

31. Raziyya was removed from the throne in _____.
    (a) 1236
    (b) 1240
    (c) 1232
    (d) 1238
    Answer: (b)

32. Babur defeated Rana Sanga at Khanua in _____.
    (a) 1525
    (b) 1526
    (c) 1527
    (d) 1528
    Answer: (c)

33. Rajaraja I was the most powerful ruler of _____ dynasty.
    (a) pallava
    (b) chola
    (c) chandelle
    (d) chalukya
    Answer: (b)

34. Who is the author of Book "Unfinished"
    (a) Peter Mukerjea
    (b) Irwin Allan Sealy
    (c) Meghna Pant
    (d) Priyanka Chopra Jonas
    Answer: (d)

35. Which of the following pair of International Organisation – Headquarters is CORRECT?
I. NATO – Brussels
II. UNDP – New York
    (a) Only I
    (b) Only II
    (c) Both I and II
    (d) Neither I nor II
    Answer: (c)

36. In which schedule of Indian constitution there is provisions as to disqualification on ground of defection?

(a) 9th schedule
(b) 10th schedule
(c) 8th schedule
(d) 12th schedule

Answer: (b)

37. Which of the following statement is CORRECT?
I. Part IV of Indian constitution deals with provision of fundamental rights.
II. Article 24 of Indian constitution deals with freedom to manage religious affairs.

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

Answer: (d)

38. How many total medals did India won at the 2020 Tokyo Olympics (Played in 2021)?

(a) 5
(b) 6
(c) 7
(d) 4

Answer: (c)

39. Which country will host the 2034 Asian Games?

(a) Qatar
(b) Saudi Arabia
(c) Iran
(d) Tajikistan

Answer: (b)

40. Which of the following pair of cricket tournament – format is CORRECT?
I. Syed Mushtaq Ali Trophy – 50 over
II. Vijay Hazare Trophy – 20 over

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

Answer: (d)

Arithmetic Ability

42. The Least Common Multiple of two numbers is 675 and their Highest Common Factor is 27. If one of the numbers is 81, then what is the other number?

(a) 375
(b) 250
(c) 225
(d) 175

Answer: (c)

43. Value of the selling price of an article is 60 percent of the value of discount offered on it. What is the discount percentage?

(a) 62.5 percent
(b) 67.5 percent
(c) 72.5 percent
(d) 80 percent

Answer: (a)

44. Average weight of the students of class A, B, C, D and E are 40 kg, 48 kg, 43 kg, 60 kg and 80 kg respectively. If number of students in class A, B, C, D and E are 50, 40, 45, 40 and 25 respectively, then what is the average weight all the students of these five classes?

(a) 50.125 kg
(b) 53.25 kg
(c) 52.375 kg
(d) 51.275 kg

Answer: (d)

45. What is the value of 80 percent of 40 per[illegible] 4000?

(a) 1280
(b) 1420
(c) 1560
(d) 1750

Answer: (a)

46. Price of sugar is increased by 80 percent. By what percent a consumer must reduce his consumption of sugar to keep the expenditure same?

(a) 55.55 percent
(b) 44.44 percent
(c) 42.56 percent
(d) 37.56 percent

Answer: (b)

47. A bottle is sold at a profit of 28 percent. If cost price of bottle is Rs. 2688 less than the selling price, then what is the cost price of this bottle?

(a) Rs. 7200
(b) Rs. 8400
(c) Rs. 8800
(d) Rs. 9600

Answer: (d)

48. Selling price of a fan and a flower are Rs. 6720 and Rs. 2340 respectively. If fan is sold at a profit of 60 percent and flower is sold at a profit of 30 percent, then what is the overall profit percentage?

(a) 51 percent
(b) 48 percent
(c) 54 percent
(d) 45 percent

Answer: (a)

49. If A : B : C = 3 : 9 : 11. and sum of A, B and C is 3450, then what is the value of B?

(a) 945
(b) 1050
(c) 1350
(d) 1420

Answer: (c)

50. Ratio of the incomes of Rahul and Manoj is 10 : 7 respectively and the ratio of the expenditure of Rahul and Manoj is 5 : 4 respectively. If Rahul and Manoj save Rs. 25000 and Rs. 15000 respectively, then what is the income of Rahul?

(a) Rs. 60000
(b) Rs. 40000
(c) Rs. 45000
(d) Rs. 50000

Answer: (d)

51. Compound interest (compounding annually) on a sum at the rate of 20 percent per annum for 2 years is Rs. 16720. What is the sum?

(a) Rs. 38000
(b) Rs. 40000
(c) Rs. 42000
(d) Rs. 45000

Answer: (a)

52. Difference between compound interest (compounding annually) and simple interest on a sum of Rs. 92000 is Rs. 920 for 2 years. What is the amount at compound interest (compounding annually) on the same sum for three years at the same rate of interest?

(a) Rs. 122452

(b) Rs. 110124

(c) Rs. 114126

(d) Rs. 116522

Answer: (a)

53. Vipul can cover a distance of 400 metres in 25 seconds. What is the speed of Vipul?

(a) 48.4 km/hr

(b) 49.6 km/hr

(c) 50.4 km/hr

(d) 57.6 km/hr

Answer: (d)

54. Two trains of length 520 metres and 480 metres are moving towards each other with the speed of 90 km/hr and 54 km/hr respectively. In how much time will they cross each other?

(a) 30 seconds

(b) 36 seconds

(c) 40 seconds

(d) 25 seconds

Answer: (d)

55. Praveen alone and Namit alone can complete a work in 15 days and 25 days respectively. If they complete work together and they receive Rs.
5600, then what is the share of Praveen?

(a) Rs. 3500

(b) Rs. 4200

(c) Rs. 2100

(d) Rs. 2800

Answer: (a)

56. Ramesh alone and Dev alone can complete a work in 420 days and 140 days respectively. Dev and Virat together can complete the same work in 60 days. In how many days Ramesh and Virat together can complete the same work?

(a) 105 days

(b) 84 days

(c) 96 days

(d) 72 days

Answer: (b)

General English

61. Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.
Language is a constant / companion during /our life journey. / No error

(a) Language is a constant

(b) companion during

(c) our life journey.

(d) No error

Answer: (d)

62. Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.
The population of / Uttar Pradesh is greater / than Jharkhand. / No error

(a) The population of

(b) Uttar Pradesh is greater

(c) than Jharkhand.

(d) No error

Answer: (c)

65. A sentence has been given with a blank to be filled with an appropriate word/words. Choose the CORRECT alternative.
Rahul can _____ the books out of the shelf.

(a) take

(b) took

(c) taken

(d) takes

Answer: (a)

66. A sentence has been given with a blank to be filled with an appropriate word. Choose the CORRECT alternative.
They decided to _____ from their houses and get married somewhere.

(a) vanish

(b) hurry

(c) awake

(d) elope

Answer: (d)

67. 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: Through competition, they may have contributed to the extermination of the Tasmanian wolf and Tasmanian devil, both marsupials, on the Australian mainland.
Q: Dingoes are large carnivores.
R: Historically, they prayed mostly on kangaroos and wallabies, but their diet changed with the introduction of the European rabbit into Australia in the mid-19th century.
S: Now dingoes consume mostly rabbits and small rodents.

(a) PQSR
(b) QRSP
(c) SQRP
(d) PSQR

Answer: (b)

68. 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: He attended Harvard University's law school, where he was the first African American to serve as president of the Harvard Law Review.
Q: Even before entering the White House, Obama had been making history.
R: On January 20, 2009, Barack Obama was inaugurated as the first African American president.
S: After settling in Chicago, he entered politics in 2004, defeating Republican Alan Keyes in the first U.S. Senate race in which the two leading candidates were black.

(a) QPRS
(b) RQPS
(c) SQRP
(d) RQSP

Answer: (b)

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

(a) Implement
(b) Ample
(c) Imperial
(d) Balk

Answer: (a)

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

(a) Strong
(b) Sick
(c) Frail
(d) Late

Answer: (a)

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

(a) Bookepeer
(b) Bookkeper
(c) Bookkeeper
(d) Bookeeper

Answer: (c)

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

(a) Restaurant
(b) Restorant
(c) Rastorent
(d) Restaurent

Answer: (a)

73. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.
To keep one's fingers crossed

(a) To wish for good luck or success
(b) Pay an extremely high price
(c) Unmindful
(d) To acquire a property

Answer: (a)

74. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.
To fight against long odds

(a) To deal with tough situations
(b) To find some reason to quarrel
(c) To criticise someone
(d) To put someone at ease

Answer: (a)

75. Choose the word that can substitute the given sentence.
One who pretends to be somebody else

(a) Impostor
(b) Virtuoso
(c) Fugitive
(d) Mercenary

Answer: (a)

77. Which of the following statements is NOT correct regarding Deinonychus dinosaur?

(a) It was a slow, plodding reptile.

(b) They lived about 115 million years ago.

(c) They were considered to be intelligent.

(d) Their size was not very large.

Answer: (a)

78. Which of the following words can appropriately fill the blank marked as 'A'?

(a) Regaled

(b) Depressed

(c) Convinced

(d) Surprised

Answer: (c)

79. When was the first feathered dinosaur announced?

(a) 1960

(b) 1897

(c) 1870

(d) 1996

Answer: (d)

80. Our image of dinosaurs is now quite different fro at put forward by the first palaeontologists working on these animals'.
Paul is talking about which previous image here?

(a) Birds that fill the world's skies toda liv dinosaurs.

(b) Dinosaurs are scaled-up lizards.

(c) Tyrannosaurs rex is a descendant of humble pigeon.

(d) Before 20th century, there were no evidence of feathered dinosaurs.

Answer: (b)

Discipline1

101. The angular momentum about the centre of force is always _____.

(a) conserved

(b) zero

(c) not conserved

(d) may or may not be conserved

Answer: (a)

102. Poisson Bracket of position 'x' and momentum 'p' is equal to _____.

(a) 0

(b) 1 ÷ 2

(c) 1

(d) –1

Answer: (c)

103. What are the eigenvalues of projection operator?

(a) 0, 0

(b) 0, 1

(c) 1, –1

(d) –1, 0

Answer: (b)

104. What is the wavelength of 10 eV photon?

(a) 2120 Å

(b) 1420 Å

(c) 1240 Å

(d) 1560 Å

Answer: (c)

105. On which of the following, superconducting material is NOT depend?

(a) Electric field

(b) Magnetic field

(c) Magnetization

(d) Temperature

Answer: (a)

106. What is the curl of vector magnetic potential?

(a) Magnetic field

(b) Electric field

(c) Propagation vector

(d) Current density

Answer: (a)

107. The charge on uus is_____.

(a) 1

(b) 2 ÷ 3

(c) 1 ÷ 3

(d) 0

Answer: (a)

108. The spin and parity of Be 9 nucleus is _____.
4

(a) 3 ÷ 2, odd

(b) 7 ÷ 2, even

(c) 5 ÷ 2, odd

(d) 1 ÷ 2, even

Answer: (a)

109. The Boltzmann entropy probability relation is _____.

(a) $S = k_B \log \Omega$

(b) $S = 2k_B \log \Omega$

(c) $S = k_B \log 2 \Omega$

(d) $S = k_B / 2 \log \Omega$

Answer: (a)

110. What is the entropy of linear collection of three independent spin 1/2 particle each at fixed location?

(a) $3k_B \log 8$

(b) $3k_B \log 2$

(c) $6k_B \log 8$

(d) $6k_B \log 2$

Answer: (b)

111. Ensemble in which the number of particles, volume and energy is same for all elements:

(a) Microcanonical

(b) Canonical

(c) Grand canonical

(d) Microcanonical and canonical

Answer: (a)

112. When the average distance between the two pa e is large as compared to De-Broglie wavelength, then two particles are _____.

(a) distinguishable

(b) indistinguishable

(c) can be distinguishable and indistinguishable

(d) neither distinguishable nor indistinguishable

Answer: (a)

113. What is the spin of the dirac particle?

(a) 1

(b) – (3 ÷ 2)

(c) 1 ÷ 2

(d) 0

Answer: (c)

115. The minimum value of potential applied to produce x-ray photon of wavelength 0.05 nm is _____.

(a) 24750 V

(b) 32670 V

(c) 12670 V

(d) 45530 V

Answer: (a)

116. Which one of the following is NOT fermion?

(a) proton
(b) neutron
(c) deuteron
(d) electron

Answer: (c)

117. Which of the following is universal gate?

(a) AND
(b) NAND
(c) NOT
(d) XOR

Answer: (b)

118. How many input and output in the half adder logic circuit?

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

Answer: (a)

119. What is inside the nucleus?

(a) proton only
(b) electron
(c) proton and neutron
(d) neutron and electron

Answer: (c)

Discipline2

122. Resolving power of the microscope is _____.

(a) directly proportional to the wavelength
(b) inversely proportional to the wavelength
(c) directly proportional to the square of wavelength
(d) independent of wavelength

Answer: (b)

123. When two waves superimpose to each other gives resultant wave of lower, higher or same amplitude, the phenomena is called as _____.

(a) Interference
(b) Diffraction
(c) Coherence
(d) Emission

Answer: (a)

124. The magnification of the plane mirror is +1, it means image formed by plane mirror:

(a) real and inverted

(b) virtual and erect

(c) real and erect

(d) virtual and inverted

Answer: (b)

125. At the nanoscale, melting point of the nano particles _____.

(a) increases

(b) decreases

(c) remains constant

(d) first increase then decrease

Answer: (b)

126. What is the colour of gold particle at the nano scale?

(a) Yellow

(b) Red

(c) Orange

(d) Variable

Answer: (d)

127. Which of the following is NOT an example of top down approach for the preparation of nanomaterials?

(a) Ball milling

(b) Mechanical grinding

(c) Lithography technique

(d) Chemical vapour deposition

Answer: (d)

128. What is the range of wavelength in the UV spectroscopy known as Deep UV?

(a) 100 nm – 500 nm

(b) 200 nm – 400 nm

(c) 100 nm – 200 nm

(d) 0.1 mm – 100 mm

Answer: (c)

129. Which of the following spectroscopy is known as magnetic resonance spectroscopy?

(a) NMR

(b) UV

(c) IR

(d) MS

Answer: (a)

130. Excited state of an atom is _____.

(a) stable state

(b) unstable state

(c) can be unstable or stable

(d) depends on the no. of atom

Answer: (b)

131. When an atom undergoes a transition from excited state to lower energy state by emitting a photon without external stimulation, the process is _____.

(a) Spontaneous emission

(b) Stimulated emission

(c) Stimulated absorption

(d) Spontaneous absorption

Answer: (a)

132. The life time (τ) of the strong interaction force is _____.

(a) 10 16 s

(b) 10 -20 s

(c) 10 -10 s

(d) 10 -23 s

Answer: (d)

133. Electron is related to the _____.

(a) baryon number family

(b) mesons family

(c) lepton family

(d) hadron family

Answer: (c)

134. The particle which is known as the messenger particle of strong nuclear force is _____.

(a) Lepton

(b) Muon

(c) Tauon

(d) Gluon

Answer: (d)

135. The smallest thing in the universe is _____.

(a) Protons

(b) Mesons

(c) Quarks

(d) Pions

Answer: (c)

137. The mean energy of the electron in the metal at 0 k is 6 eV. What is the fermi energy of the metal at 0 K?

(a) 12 eV
(b) 6 eV
(c) 15 eV
(d) 10 eV

Answer: (d)

138. Plasma is formed in the stars and other celestial bodies due to _____.

(a) high temperature
(b) low temperature
(c) high pressure
(d) low pressure

Answer: (a)

139. Plasma was discovered by which English scientist?

(a) Wilson
(b) William Crookes
(c) Hertz
(d) Wauker

Answer: (b)

140. The planet which is known as morning or evening star is _____.

(a) Mercury
(b) Saturn
(c) Mars
(d) Venus

Answer: (d)

Discipline3

141. What is the type of Andromeda galaxy?

(a) Irregular
(b) Spiral
(c) Elliptical
(d) Lenticular

Answer: (b)

142. Cosmology which is the branch of astronomy concerned with the _____.

(a) Evolution of the universe
(b) Evolution of stars
(c) Evolution of planets
(d) Evolution of the black holes

Answer: (a)

143. When all the elements in the 3 × 3 matrix is one, then eigen values of the matrix are _____.

(a) 1, 1, 1

(b) 3, 0, 0

(c) 1, 0, 1

(d) 2, 1, 0

Answer: (b)

144. The model which is extremely centralised and having diameter 2 is called as _____.

(a) Fully connected Network

(b) Star Network

(c) Regular Network

(d) Irregular Network

Answer: (b)

145. The theory in which the random states of disorder and irregularities are governed by deterministic laws is known as _____.

(a) Chaos theory

(b) Complexity theory

(c) Network theory

(d) Field theory

Answer: (a)

147. The size of the string about the size of Planck le n is of the order of _____.

(a) 10 -53 m

(b) 10 -35 m

(c) 10 -23 m

(d) 10 33 m

Answer: (b)

148. Which of the following theory is based on unoriented open and closed strings?

(a) Type-1 string

(b) Type-2 string

(c) M-theory

(d) Heterotic string

Answer: (a)

149. String theory is known as _____.

(a) Theory of string

(b) Theory of everything

(c) Theory of particle

(d) Theory of field

Answer: (b)

150. A theoretical framework in which point like particles of particle physics are replaced by string is known as _____.

(a) Particle theory
(b) String theory
(c) Radiation theory
(d) Classical theory

Answer: (b)

151. Medical Jurisprudence DOES NOT deal with which of the following?

(a) Rights and Duties of Doctors
(b) Medical Negligence
(c) Courtesy in medical profession
(d) Consent

Answer: (c)

152. In regard to medico-legal work in British India, the earliest hospital was established in which city for the treatment of sick soldiers?

(a) Mumbai
(b) Chennai
(c) Surat
(d) Kolkata

Answer: (b)

153. Which of the following is NOT included in the e ɛption to oral evidence?

(a) Medical certificate
(b) Dying declaration
(c) Expert opinion expressed in a treatise
(d) Evidence of a doctor recorded in lower court

Answer: (a)

154. Which of the following is NOT a type of inquest?

(a) Medical examiner system of inquest
(b) Coroner's inquest
(c) Police inquest
(d) Voluntary inquest

Answer: (d)

155. Which of the following type of inquest is NOT used in India anymore? a. Coroner's Inquest
b. Police Inquest
c. Magistrate Inquest

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

Answer: (a)

156. Which of the following is/are NOT the early post-mortem changes? a. Adipocere
b. Livor mortis
c. Eyes changes

(a) Only a

(b) Only b

(c) Only c

(d) All a, b and c

Answer: (a)

157. Which of the following is a test for stoppage of Respiration?

(a) Icards's test

(b) Magnus's test

(c) Feather test

(d) Ligature test

Answer: (c)

158. Which of the following is/are the characteristics of Mummification?
1. it occurs due to evaporation of water
2. it takes 3 months to 1 year to develop
3. skin of the body becomes black in color

(a) Both 1 and 3

(b) Both 1 and 2

(c) Both 2 and 3

(d) All 1, 2 and 3

Answer: (b)

159. Which of the following is an example of a brain affecting poison called Somniferous?

(a) Nux vomica

(b) Conium

(c) Cannabis

(d) Barbiturates

Answer: (d)

160. The sudden stoppage of action of heart due to vasovagal attack resulting from reflex parasympathetic stimulation is a type of which mode of death?

(a) Asphyxia

(b) Syncope

(c) Anoxia

(d) Coma

Answer: (b)

Discipline4

161. The facts established by the Ballistic experts during shooting related crimes is/are:
1. number of bullets fired
2. caliber of bullet
3. number of shooters

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

Answer: (a)

162. Which of the following is NOT a type of Unique Marking which helps to link a bullet at a crime scene back to the weapon?

(a) Rifling pattern
(b) Breech marks
(c) Propeller pattern
(d) Firing Pin impression

Answer: (c)

163. Which of the following statement is/are TRUE regarding the Trajectory of the bullet?
1. Pythagorean's theorem can be used for triangulation with reference points 2. The bullet pass through the line-of sight from below and rises above the line-of departure 3. A bullet's path may be slightly curved due to gravity

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

Answer: (c)

164. Which of the following are examples of Long guns type of modern firearms? a. shotguns
b. rifles
c. revolver
d. pistol

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

Answer: (a)

165. Which of the following characteristics of cyber-crime is related to the crime with the potential of causing injury and loss of life?

(a) Virtual world
(b) People with specialized knowledge
(c) Collection of evidence
(d) Magnitude of crime unimaginable

Answer: (d)

166. Which of the following category is NOT included in the attacks on system security that can be carried out via electronic mail?

(a) Shell script attacks

(b) Buffer overflow attacks

(c) User network attacks

(d) Active content attacks

Answer: (c)

167. Which of the following is NOT a characteristic of a Keylogger?

(a) Used as surveillance tool by employers to ensure employees use work computers for business purposes

(b) Used to monitor and log each of the keys typed into a computer keyboard

(c) Used to capture screens and secretly turn on video or audio recorders

(d) Used by attackers to download and install malicious codes onto a computer

Answer: (d)

168. What is the wavelength range of the Visible light?

(a) 300 nm to 600 nm

(b) 400 nm to 700 nm

(c) 200 nm to 500 nm

(d) 500 nm to 700 nm

Answer: (b)

169. Which of the following is NOT a correct combi on of Wavelength range, Colour and its Major complements?

(a) 400-450 nm, Blue, Yellow

(b) 500-560 nm, Green, Purple

(c) 490-500 nm, Blue-green, Red

(d) 590-625 nm, Orange, Green-blue

Answer: (a)

170. The lens speed has importance in which of the following?
1. Taking pictures in dim light
2. Controlling depth of filed
3. Taking pictures with telephoto lenses

(a) Only 1

(b) Both 1 and 3

(c) All 1, 2 and 3

(d) Only 3

Answer: (c)

171. What color of tones are added when a photographer wants to add warmth to a scene?

(a) Bluish tones

(b) Orangish tones

(c) Greyish tones

(d) Reddish tones

Answer: (d)

172. The inner layer of hair is called _____.

(a) Melanin

(b) Cortex

(c) Medulla

(d) Follicle

Answer: (c)

173. Which of the following is known as the rest phase when hair stops growing completely?

(a) Anagen growth phase

(b) Telogen growth phase

(c) Catagen growth phase

(d) Melanocyte growth phase

Answer: (b)

174. The types of medullae found in human hair is/are
1. Absent
2. Interrupted
3. Regular

(a) Only 1

(b) Both 1 and 3

(c) Both 1 and 2

(d) Only 3

Answer: (c)

175. Which of the characteristics CANNOT be found from the hair analysis? a. Mistreatment
b. Race
c. Gender
d. Age

(a) Both a and c

(b) Both b and d

(c) Options a, b and c

(d) Options b, c and d

Answer: (d)

176. Which of the following does NOT hold true when determining whether the hair is of an animal?

(a) Medulla in an animal hair is less than one-third of the diameter of the hair

(b) Animals have thick continuous medullae

(c) Cuticular scales are arranged in a regular fashion

(d) Absence of the classification system for medullae

Answer: (a)

177. Which of the following structures are found in the middle layer of hair called Cortex?
1. Ovoid bodies
2. Keratin
3. Cortical Fusi

(a) Only 3

(b) Both 1 and 2

(c) Both 1 and 3

(d) Only 1

Answer: (c)

178. Which of the following is an example of a liquid mixture?

(a) Gasoline

(b) Illicit drugs

(c) Paint chips with polymers

(d) Rubble pile with explosive residues

Answer: (a)

179. Which of the following holds TRUE about the Gas Chromatography (GC)? a. stationary phase is an inert gas
b. mobile phase is a thick, viscous liquid

(a) Only a

(b) Only b

(c) Both a and b

(d) Neither a nor b

Answer: (d)

180. An acidic solution will have a pH value _____.

(a) greater than 7

(b) equal to 7

(c) of less than 7

(d) of less than and equal to 7

Answer: (c)

Discipline5

181. The evidence commonly analyzed by HPLC include:
1. Dyes
2. DNA
3. Inks

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

Answer: (c)

182. A method of teaching hand printing and writing by copying letter is called _____.

(a) Requested exemplar
(b) Graphology
(c) Exemplar
(d) Palmer

Answer: (d)

183. Which of the following is NOT correct about a Questioned document?

(a) Any written/printed communication between individuals whose source is in doubt.
(b) They can be written in ink, blood or even lipstick.
(c) It is written on any piece of paper available
(d) They include wills, currency, or driver's licens[illegible]c.

Answer: (c)

184. The method to render handwriting unr[illegible]dable[illegible] crossing it out with another writing instrument or written over by a marking pen is [illegible]n as _____.

(a) Obliterations
(b) Erasures
(c) Additions
(d) Charring

Answer: (a)

185. Which of the following method is NOT used for the detection of indented writing?

(a) Rubbing it with pencil lead
(b) Use of bleaching agents
(c) Use of the oblique lighting
(d) ESDA

Answer: (b)

186. Which of the following is/are objective(s) of a forensic autopsy?
I) Cause and manner of death
II) To document both external and internal injuries III)Identification of the victim

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

Answer: (d)

187. Which of the following is/are the types of medico legal investigative systems in the United States?
I) Coroner System
II)Henry System
III) Medical Examiner System

(a) I and II Only
(b) I and III Only
(c) II and III Only
(d) All I, II & III

Answer: (b)

188. Which of the following is NOT true about Sudden Infant Death Syndrome (SIDS)?

(a) SIDS is hereditary in nature
(b) SIDS is a diagnosis of exclusion.
(c) Premature infants seem to be at a greater ris[illegible]r SIDS.
(d) The vast majority of SIDS deaths in[illegible]e fu[illegible]erm infants.

Answer: (a)

189. Which of the following is NOT a property of Carbon monoxide (CO)?

(a) Colorless
(b) Tasteless
(c) Irritating
(d) Odorless

Answer: (c)

190. The affinity of carbon monoxide for hemoglobin is _____ times greater than that for oxygen.

(a) 10 to 20
(b) 25 to 50
(c) 50 to 100
(d) 250 to 300

Answer: (d)

191. Which of the following tests is used to determine whether a person has drowned?

(a) Gettler chloride test

(b) Burking test

(c) Hydrostatic test

(d) Lipid test

Answer: (a)

192. The acid phosphatase that is present in seminal fluid originates in_____.

(a) Prostate

(b) seminal vesicle

(c) Epididymis

(d) Leydig cell

Answer: (a)

193. Which of the following methods CANNOT be used to confirm seminal fluid not having spermatozoa?

(a) Crossover electrophoresis

(b) Ouchterlony double diffusion

(c) Microscopy

(d) ELISA

Answer: (c)

194. The protein specific to semen known as prostat pecific antigen (PSA), is also referred to as _____ in forensic terminology.

(a) p30

(b) p55

(c) p25

(d) p11

Answer: (a)

195. Which of the following tests cause the blood-stained areas to emit light?
I) Luminol
II) Fluorescein
III)Leucomalachite green

(a) I and II Only

(b) I and III Only

(c) II and III Only

(d) III Only

Answer: (a)

196. Which of the following is involved in DNA quantification?

(a) STR
(b) PCR
(c) Y-STR
(d) mtDNA

Answer: (b)

197. The most widespread method of DNA analysis currently used in crime laboratories is _____.

(a) RFLP
(b) PCR
(c) mtDNA
(d) STR

Answer: (d)

198. Which of the following DNA analysis techniques is useful in cases where there is a mixture of male and female DNA?

(a) Y-STR
(b) STR
(c) mtDNA
(d) RFLP

Answer: (a)

199. _____ is a database of DNA profiles maintain at the local, state, and national level. Its purpose is to help aid criminal investigations by link perpetrators to biological evidence.

(a) IRIDS
(b) Master DNA
(c) CODIS
(d) CODIMS

Answer: (c)

200. Which of the following tests in performed to determine species of origin?

(a) Fluorescence Test
(b) Precipitin Test
(c) Walker Test
(d) Solubility Test

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

General Awareness

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

Arithmetic Ability

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

General English

61	**(d)**	62	**(c)**	65	**(a)**	66	**(d)**	67	**(b)**
68	**(b)**	69	**(a)**	70	**(a)**	71	**(c)**	72	**(a)**
73	**(a)**	74	**(a)**	75	**(a)**	77	**(a)**	78	**(c)**
79	**(d)**	80	**(b)**						

Discipline1

101	**(a)**	102	**(c)**	103	**(b)**	104	[illegible]	05	**(a)**
106	**(a)**	107	**(a)**	108	**(a)**	109	**(a)**	110	**(b)**
111	**(a)**	112	**(a)**	113	**(c)**	115	**(a)**	116	**(c)**
117	**(b)**	118	**(a)**	119	**(c)**				

Discipline2

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

Discipline3

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

Discipline4

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

Discipline5

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