PREVIOUS YEAR PAPER

DSSSB Junior Engineer (Electrical) or Section Officer (Electrical) 2022 — 22 June 2022, Shift 1

DSSSB Other Posts · 22 June 2022 · Shift 1

147 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: 53 (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 22 June 2022, 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-2022-junior-engineer-electrical-or-section-officer-electrical-22-jun-shift-1/

Mental Ability

1. Dev is ranked 23rd from left end and 34th from right end in a row. How many people are in that row?

(a) 56
(b) 57
(c) 58
(d) 59

Answer: (a)

2. Atul ranked 17th from left end of the row, while Sachin ranked 15th from the right side of the row. If there are exactly 5 persons between Atul and Sachin. If Atul is towards the left of Sachin, how many persons are in that row?

(a) 36
(b) 37
(c) 39
(d) 40

Answer: (b)

3. Two statements are followed by two conclusions. Consider the statements to be TRUE even if they seem to be at variance with commonly known facts and decide which of the given conclusion(s) logically follow(s) from the given statements.
Statements:
A. All dogs are lion.
B. All sheep are lion.
Conclusions:
I. Some lions are dogs.
II. Some lions are sheep.

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

Answer: (c)

4. Shweat is taller than Anu and Vani is smaller than Dev, Tanu is Taller than Vani and smaller than Samar, Anu is taller than Samar. Dev is smaller than Anu.
Who is tallest among all?

(a) Shweta

(b) Anu

(c) Vani

(d) Samar

Answer: (a)

5. Which letter cluster would replace question mark (?) in the given series?
EF, LL, SR, ZX, ?

(a) GD

(b) DE

(c) CH

(d) HC

Answer: (a)

6. Which of the following meaningful word can be formed using the letters of the word RELATIONSHIP, a letter can be used only once?

(a) Reinstate

(b) Shipment

(c) Road

(d) Alter

Answer: (d)

7. Shan travels 20 km towards North then he t[illegible]ght and travels 30 km to reach school. He again turns right and travels 10 km. Finally he turns left and travels 15 km. In which direction is he facing now?

(a) East

(b) North

(c) South

(d) West

Answer: (a)

8. Zoya is sister of Aman and mother of Anu. Aman is grandson of Neha and father of Fahad. Fahad is son of Hira. How is Hira related to Anu?

(a) Sister

(b) Sister-in-law

(c) Mother

(d) Aunty

Answer: (d)

9. M € N means 'M is brother of N' M ≠ N means 'M is father of N' M © N means 'M is wife of N' M α N means 'M is sister of N' If
P © Q € S ≠ R α T
How is R related to P?

(a) Aunty
(b) Nephew
(c) Niece
(d) Mother

Answer: (c)

10. Select the option that is related to the third word in the same way as the second word is related to the first word.
Heart : Cardiologist :: Bone :?

(a) Ecologist
(b) Ontology
(c) Orthopedist
(d) Dermatologist

Answer: (c)

11. Four words have been given out of which three are alike in some manner, while the fourth one is different. Choose the word which is different from the rest.

(a) Flock
(b) Herd
(c) Shoal
(d) Fish

Answer: (d)

16. Which number would replace question mark (?) in the given series?
42, 55, 70, 87, ?

(a) 109
(b) 100
(c) 106
(d) 103

Answer: (c)

17. Which number would replace question mark (?) in the given series?
123, 140, 167, 204, ?

(a) 217
(b) 227
(c) 241
(d) 251

Answer: (d)

18. Four numbers have been given out of which three are alike in some manner, while the fourth one is different. Choose the number which is different from the rest.
(NOTE: Only whole numbers should be considered, without breaking down the numbers into its constituent digits)

(a) 53
(b) 63
(c) 73
(d) 83

Answer: (b)

19. What will be the approximate value of the following expression?
23.7 × 2.4 + 47.75 ÷ 2.25 – 12.759

(a) 59
(b) 67
(c) 89
(d) 102

Answer: (a)

20. What will be the approximate value of 'Q' in the following expression?
229.58 + Q × 34.4 - 87.92 ÷ 4 = 423.47

(a) 3.5
(b) 6
(c) 8
(d) 9

Answer: (b)

General Awareness

21. Who among the following received Aryabhata Award from Astronautical Society of India in October 2021?

(a) Dr B. N. Suresh
(b) Dr G. Satheesh Reddy
(c) Dr Ashwin Vasavada
(d) Dr Kamlesh Lulla

Answer: (b)

22. Which of these association conferred the 'International Lifetime Achievement Award in Neurosurgery' to Dr Basant Kumar Misra?

(a) AFRICAN FEDERATION of Neurosurgical Societies
(b) ASIAN CONGRESS of Neurological Surgeons
(c) AMERICAN ACADEMY of Neurological Surgery
(d) AMERICAN ASSOCIATION of Neurological Surgeons

Answer: (d)

23. Which of these state government has introduced a 'Back to Work' scheme for women who have had to quit their jobs due to family reasons?

(a) Gujarat
(b) Madhya Pradesh
(c) Rajasthan
(d) Karnataka

Answer: (c)

24. In how many days, India administered 100 million doses of coronavirus vaccines and became the fastest country in the world in administration of coronavirus vaccines?

(a) 100 days
(b) 65 days
(c) 85 days
(d) 125 days

Answer: (c)

25. Who has become the first Indian to be selected for judging the gymnastics competition of the Olympic Games?

(a) Sanjeet Kumar
(b) Deepak Kabra
(c) Sunil Chhetri
(d) Vantika Agarwal

Answer: (b)

26. Which of the following are the three new members countries of the International Cricket Council (ICC) inducted in July 2021?

(a) Mongolia, Tajikistan and Switzerland
(b) Mongolia, Afghanistan and Switzerland
(c) Bermuda, Canada and Switzerland
(d) Mongolia, Bermuda and Canada

Answer: (a)

27. Harishena was a poet and a minister at the court of _____.

(a) Ashoka
(b) Akbar
(c) Samudragupta
(d) Chandragupta II

Answer: (c)

28. Which of the following was established by Dr. Atma Ram Pandurang?

(a) Prarthana Samaj
(b) Brahmo Samaj
(c) Arya Samaj
(d) Parmahansa Mandali

Answer: (a)

29. As per the estimation of Scholars, what was the total number of wells in Mohenjodaro?

(a) About 250
(b) About 700
(c) About 500
(d) About 150

Answer: (b)

30. Hindustani vocalists Kumar Gandharva's and Bhimsen Joshi's places of birth is located in _____.

(a) Kerala
(b) Tamil Nadu
(c) Madhya Pradesh
(d) Karnataka

Answer: (d)

31. How many aircrafts and helicopters took part in fly-past in 73rd Republic Day celebrations at Rajpath?

(a) 75
(b) 67
(c) 48
(d) 59

Answer: (a)

32. In which year Microfinance Institutions Network (MFIN) was recognised by the Reserve Bank of India (RBI) as India's first Self- Regulatory Organization (SRO) for the Non-Banking Financial Company - Micro Finance Institutions (NBFC-MFI)?

(a) 2010
(b) 2012
(c) 2014
(d) 2019

Answer: (c)

33. In which year, Industrial Finance Corporation of India (IFCI) became Public Limited Company?

(a) 1955
(b) 1964
(c) 1985
(d) 1993

Answer: (d)

34. Which of these is NOT a part of The North-Eastern Plateau Region of India?

(a) Chhotanagpur (Jharkhand)
(b) Odisha Plateau
(c) Tamil Nadu uplands
(d) West Bengal

Answer: (c)

35. As per census 2011, what was the literacy rate of Kerala?

(a) 95%

(b) 94%

(c) 96%

(d) 97%

Answer: (b)

36. Which of the following port is the premier iron ore exporting port of India?

(a) Marmagao port

(b) Jawaharlal Nehru port

(c) Deendayal Port

(d) New Mangalore port

Answer: (a)

37. Which of these constellations is visible during winter in the early part of the night and looks like a distorted letter W or M?

(a) Orion

(b) Canis Major

(c) Cassiopeia

(d) Ursa Minor

Answer: (c)

38. Which of these group has radial symmetry?

(a) Platyhelminthes

(b) Porifera

(c) Annelida

(d) Cnidaria / Coelenterata

Answer: (d)

39. Clause k of Article 51A "who is a parent or guardian to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years" was added by the _____ Constitution Amendment Act 2002.

(a) 70th

(b) 86th

(c) 73rd

(d) 92nd

Answer: (b)

40. Which of these is NOT a constitutional body?

(a) National Commission for Scheduled Castes

(b) National Commission for Backward Classes

(c) National Commission for Scheduled Tribes

(d) National Commission for Minorities

Answer: (d)

Arithmetic Ability

43. If three positive numbers are in the ratio 2 : 3 : 5 whose L.C.M. is 2400, then find the H.C.F. of the three numbers.

(a) 60
(b) 80
(c) 75
(d) 90

Answer: (b)

45. If an integer 'n' is divisible by 3, 5 and 12 respectively, then what is the next larger positive integer divisible by all these numbers?

(a) n + 60
(b) n + 90
(c) n + 120
(d) n + 30

Answer: (a)

46. A mixture contains 10% water in the milk. How much water should be added to the mixture of one litre such that the water percentage goes up to 25%?

(a) 400 ml
(b) 200 ml
(c) 350 ml
(d) 250 ml

Answer: (b)

47. A shopkeeper sold two chairs for Rs. 4725 eac... On one chair, he gains 20% and on the other chair 20% loss What is the total gain or loss percentage in the whole transaction?

(a) No loss or no profit
(b) 4.17% loss
(c) 5.12% loss
(d) 4.81% profit

Answer: (b)

48. A banker claims to be loaning money at simple interest, he includes the interest every six months for calculating the principal. If he is charging an interest of 8%, then the effective rate of interest is:

(a) 8.32%
(b) 8.08%
(c) 8.16%
(d) 8.24%

Answer: (c)

49. Simple interest on a certain sum of money for 3 years at 8% per annum is one-third the compound interest on Rs. 24,000 for 2 years at 10% per annum. What is the sum (in Rs.) placed on simple interest?

(a) 8300
(b) 7000
(c) 7620
(d) 8050

Answer: (b)

50. If 4 males or 5 females can cultivate a rose field in 30 days, then how long will 7 male and 10 female take to cultivate it?

(a) 8
(b) 7
(c) 9
(d) 12

Answer: (a)

52. In covering a distance of 360 km, a person A takes 3 hours more than another person B. If A triples his speed, then he would take 2 hours less than B. What is the speed (in km/hr) of A?

(a) 45
(b) 52
(c) 48
(d) 36

Answer: (c)

53. A salesman completes a journey in 12 hou[illegible]travels first one-third of the journey at the rate of 15 km/hr and second two-third of the journey at the rate of 18 km/hr. What is his total journey in km?

(a) 202.50
(b) 210.25
(c) 218.50
(d) 198.75

Answer: (a)

54. How many granites whose length and breadth are 24 cm and 6 cm respectively will be needed to fit in a rectangular region whose length and breadth are 576 cm and 120 cm respectively?

(a) 420
(b) 480
(c) 460
(d) 510

Answer: (b)

General English

61. Fill in the blank with the most appropriate word.
She is cut out _____a career in acting.

(a) to
(b) in
(c) at
(d) for

Answer: (d)

62. Fill in the blank with the most appropriate word.
It is time to go to work _____.

(a) yet
(b) now
(c) still
(d) often

Answer: (b)

63. Fill in the blank with the most appropriate word.
By the time we arrived home, the children _____.

(a) went
(b) had gone
(c) were going
(d) have gone

Answer: (b)

64. Fill in the blank with the most appropri[illegible]word
She _____ poetry since she was six years o[illegible]

(a) wrote
(b) is writing
(c) was writing
(d) has been writing

Answer: (d)

65. Select the correct synonym of the given word.
Feeble

(a) famous
(b) funny
(c) frail
(d) fluent

Answer: (c)

66. Select the correct antonym of the given word.
Elude

(a) escape
(b) evade
(c) encounter
(d) eschew

Answer: (c)

67. Fill in the blank with the most appropriate word.
The ____was caught with a consignment of _____.

(a) heroin, heroin
(b) heroine, heroin
(c) heroin, heroine
(d) heroine, heroine

Answer: (b)

68. Select the correct meaning of the given idiom.
Eat like a horse

(a) to eat while standing
(b) to eat very slowly
(c) to have a large appetite
(d) to make a mess while eating

Answer: (c)

69. Select the correct meaning of the given [illegible]over
All that glitters is not gold

(a) if something does not shine, it cannot be gold
(b) things may not be as valuable as they seem
(c) it is not easy to find pure gold
(d) purity of metals determines their value

Answer: (b)

70. Select the correctly spelt word.

(a) Pavilion
(b) Pavillion
(c) Pavelion
(d) Pavileon

Answer: (a)

71. Select the incorrectly spelt word.

(a) Vengeance
(b) Unconscious
(c) Acclamatize
(d) Maleficent

Answer: (c)

72. Identify the grammatically correct sentence.

(a) He had take part in the dance competition as he couldn't sprained his ankle.

(b) He couldn't sprained his ankle in the dance competition as he had take part.

(c) He couldn't take part in the dance competition as he had sprained his ankle.

(d) The dance competition he had sprained in his ankle as he couldn't take part.

Answer: (c)

73. Arrange the following sentences in the correct order to form a meaningful paragraph.
A. Yet, most patients with the problem choose to neglect it.
B. These could range from pain to blurred vision.
C. It manifests as a complex condition with a host of symptoms.
D. Migraine is much more than a severe headache.

(a) DABC

(b) DCBA

(c) CADB

(d) CBAD

Answer: (b)

74. Fill in the blank with the most appropriate word.
My cousin _____ that she had been neglecting her studies.

(a) continued

(b) consoled

(c) confessed

(d) conducted

Answer: (c)

75. Fill in the blank with the most appropriate word.
The situation calls for _____ action by the government.

(a) eager

(b) prompt

(c) sharp

(d) fluent

Answer: (b)

76. The tiny spring issuing from the rock was hidden by:

(a) Grass

(b) Curtain

(c) Fern

(d) Mud

Answer: (c)

77. The tiny spring finally became a part of:
(a) a stream
(b) a hill
(c) a river
(d) the ocean
Answer: (d)

78. How do children respond to the first rain?
(a) by jumping into the muddy water
(b) by running and playing in the rain
(c) by bathing in lakes and rivers
(d) by sniffing the fragrance of damp earth
Answer: (b)

80. What important lesson can we learn from water?
(a) to value natural resources
(b) to rejuvenate others
(c) to lose our identity
(d) to move on, making our way through obstacles
Answer: (d)

Discipline1

101. One mol of water molecule contains:
(a) 6.022 ×10 23 molecules
(b) 3.022 ×10 23 molecules
(c) 1.66 ×10 12 molecules
(d) 1.66 ×10 23 molecules
Answer: (a)

102. What is the molar mass of water?
(a) 3.0 gmol -1
(b) 36.02 gmol -1
(c) 18.02 gmol -1
(d) 6.02 gmol -1
Answer: (c)

103. The second orbit of an atom contains 6 electrons. If it's atomic mass is 17, then the number of protons in it's nucleus will be:
(a) 6
(b) 8
(c) 9
(d) 17
Answer: (b)

104. The oxygen dissolved in cold water can reach a concentration upto:

(a) 1 parts per million (ppm)

(b) 3 parts per million (ppm)

(c) 10 parts per million (ppm)

(d) 100 parts per million (ppm)

Answer: (c)

109. Which term of the series 2 + 5 + 8 + ------ is 50?

(a) 15

(b) 16

(c) 17

(d) 18

Answer: (c)

110. The slope of the lines passing through the points (3, -2) and (7, -2) is:

(a) 0

(b) 4

(c) 2/3

(d) -4

Answer: (a)

111. The scalar product of two non zero vectors will be zero, if and only if the angle between two vectors is:

(a) 0 degree

(b) 90 degree

(c) 45 degree

(d) 180 degree

Answer: (b)

114. Find the modulus of the complex number 4 – 3i

(a) 4

(b) 5

(c) 7

(d) 1

Answer: (b)

115. The resultant of two forces 7 N and 9 N acting in opposite direction will be:

(a) 2 N towards 9 N

(b) 2 N towards 7 N

(c) 16 N towards 9 N

(d) 16 N towards 7 N

Answer: (a)

116. The tendency of forces is not only to move a body but also to rotate the body is called:

(a) Force
(b) Fulcrum
(c) Moment
(d) Inertia

Answer: (c)

117. The unit of co-efficient of friction in S I system of unit is:

(a) N-m
(b) N/m
(c) N
(d) unit less

Answer: (d)

118. The product of mass of a body and its velocity is called _____.

(a) Moment
(b) Momentum
(c) Impulse
(d) Work

Answer: (b)

119. A piece of gold has a resistance of 0.8 ohm. Find resistance of a wire of the same size and resistivity 25 times that of gold.

(a) 0.8 ohm
(b) 31.25 ohm
(c) 20 ohm
(d) 0.032 ohm

Answer: (c)

120. The direction of magnetic lines of force around a straight current carrying conductor may be determined by:

(a) Lenz's law
(b) Cork screw rule
(c) Fleming's left hand rule
(d) Faraday's law

Answer: (b)

Discipline2

121. Two parallel conductors carrying current in the same direction:

(a) attract each other
(b) repel each other
(c) experiences no force
(d) sometimes attract and sometime repel

Answer: (a)

122. The phenomenon of lagging of flux density behind the magnetizing force is called as:

(a) magnetic leakage

(b) magnetic hysteresis

(c) relative permeability

(d) Mmf

Answer: (b)

123. The direction of magnetic lines of force is:

(a) not fixed

(b) from S to N pole

(c) from N to S pole

(d) have no direction

Answer: (c)

125. The power consumed by a pure inductance connected to an AC circuit is:

(a) Zero

(b) Infinite

(c) very low

(d) very high

Answer: (a)

126. Time constant of a capacitive circuit is defined a e time taken by the voltage to rise to _____ times final value of the voltage.

(a) 0.368

(b) 0.632

(c) 0.5

(d) 2.0

Answer: (b)

127. The unit of representative fraction (RF) in engineering drawing is:

(a) Mm

(b) M

(c) Km

(d) unit less

Answer: (d)

129. In the aligned system of placing dimensions on a prepared drawing _____.

(a) the dimensions are placed parallel to the dimension lines

(b) the dimensions are placed perpendicular to the dimension lines

(c) the dimensions are placed alwayshorizontal

(d) the dimensions are placed always vertical

Answer: (b)

130. A diagonal scale represents:
(a) one units of measurement
(b) two units of measurement
(c) three units of measurement
(d) four units of measurement
Answer: (c)

132. Germanium atom contains _____ valance electrons.
(a) 2
(b) 4
(c) 6
(d) 8
Answer: (b)

133. The dipoles of a dielectric are oriented in the direction of electric field, this process is called:
(a) dielectric constant
(b) Permittivity
(c) Polarization
(d) Magnetization
Answer: (c)

134. Which material is used for making emitters in vac m tubes?
(a) tungesten
(b) carbon
(c) Sulphur
(d) Silicon
Answer: (a)

135. Which among the following has highest permeability?
(a) paramagnetic materials
(b) diamagnetic materials
(c) ferromagnetic materials
(d) air
Answer: (c)

136. Curie temperature is the temperature at which the magnetic material:
(a) looses their magnetism
(b) fully magnetized
(c) starts magnetizing
(d) behaves like insulators
Answer: (a)

137. The barrier potential of Silicon is approximately _____.

(a) 0.1 V

(b) 0.3 V

(c) 0.7 V

(d) 1.0 V

Answer: (c)

138. Rectification efficiency and ripple factor of a full wave rectifier _____ and _____ respectively.

(a) 40.6% , 1.21

(b) 81.2% , 0.482

(c) 91.6% , 1.21

(d) 100%, 0.482

Answer: (b)

139. For which purpose, L is replaced by R in π filter?

(a) to decrease ripple factor

(b) to increase ripple factor

(c) to get high dc voltage

(d) to reduce weight, cost and external field

Answer: (d)

140. By narrowing the space charge region, the amou of reverse voltage needed to cause zener breakdown:

(a) Decreases

(b) Increases

(c) has no effect

(d) reduces to zero

Answer: (a)

Discipline3

141. For transistor action:

(a) emitter is heavily dopped

(b) emitter is lightely dopped

(c) emitter is moderately dopped

(d) collector is heavily dopped

Answer: (a)

142. The arrow head in a transistor symbol points in the direction of:

(a) electron flow in the emitter region

(b) holes flow in the emitter region

(c) majority carrier flow in emitter region

(d) minority carrier flow in emitter region

Answer: (b)

143. The output voltage of CE amplifier compared to its input voltage is:

(a) out of phase by 180°

(b) leading by 90°

(c) lagging by 90°

(d) in phase

Answer: (a)

144. Which one is suited best for impedance matching?

(a) CC Configuration

(b) CE Configuration

(c) CB Configuration

(d) both CE and CB Configuration

Answer: (a)

145. Convert binary number 1101.1101 into octal number:

(a) 15.64

(b) 15.15

(c) 13.13

(d) 13.15

Answer: (a)

146. For a three input NOR gate, the possible number states where output is 0 equals:

(a) 1

(b) 5

(c) 7

(d) 8

Answer: (c)

147. In a logic gate output will be 1 if:

(a) anything ORed with its own compliment

(b) anything ANDed with its own compliment

(c) anything ORed with itself

(d) anything ANDed with itself

Answer: (a)

148. How many flip-flop are required to design Mod-20 counter?

(a) 4

(b) 5

(c) 10

(d) 20

Answer: (b)

149. If 1s are applied simultaneously to both set and reset input lines of a NOR SR latch, then the mode of operation will be:

(a) Hold
(b) Set
(c) Reset
(d) Prohibited

Answer: (d)

150. A logic circuit which perform the function of half-adder has:

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

Answer: (b)

151. In 8085 microprocessor, ____ interrupt has the lowest priority?

(a) INTR
(b) TRAP
(c) RST 5.5
(d) RST 7.5

Answer: (a)

152. Accumulator in 8085 microprocessor is an ____ bit register.

(a) 4
(b) 8
(c) 12
(d) 16

Answer: (b)

153. According to IE rule, the number of light/fan points connected in one sub circuit should not exceed to:

(a) 3
(b) 6
(c) 10
(d) 15

Answer: (c)

154. A cable having 3 strands each of gauge 20 SWG may be represented as:

(a) 3/20
(b) 20/3
(c) 3/20 mm
(d) 3-20

Answer: (a)

155. According to the types of insulation used over the conductor in cables, VIR stands for:

(a) Very Important Rubber
(b) Vulcanized Indian Rubber
(c) Vulcanized Intense Rubber
(d) Vinyl IntenseRubber

Answer: (b)

156. Pendant holders are used in domestic installation, when the lamp is to be:

(a) fixed on board
(b) fixed on wall
(c) suspended vertically
(d) fixed at an angle

Answer: (c)

157. MCB of the family of protective devices in electrical installation stands for:

(a) maximum current breaker
(b) mini circuit breaker
(c) main circuit breaker
(d) miniature circuit breaker

Answer: (d)

158. Coal is the _____ source of energy.

(a) Conventional
(b) non conventional
(c) Primary
(d) Renewable

Answer: (a)

159. In athermal power plant, steam energy is converted into mechanical energy by:

(a) Boiler
(b) Alternator
(c) Turbine
(d) Superheater

Answer: (c)

160. The most commonly used coolant in nuclear power plant is:

(a) Oil
(b) Helium
(c) Carbon dioxide
(d) Water

Answer: (d)

Discipline4

161. Name the huge pipe used in a hydro power plant for bringing the water to the turbine:

(a) spill way
(b) pen stock
(c) tail race
(d) surge tank

Answer: (b)

163. Ohm's law is not applicable to:

(a) resistor
(b) inductor
(c) capacitor
(d) transistor

Answer: (d)

167. The algebraic sum of all the currents meeting at a point is zero, known as:

(a) Kirchhof's law
(b) Coulomb's law
(c) Joule's law
(d) Voltage law

Answer: (a)

168. If the frequency of AC supply is increased then e resistance of the circuit will _____.

(a) Decrease
(b) unaffected
(c) Increase
(d) first increases then decreases

Answer: (b)

169. A series AC circuit connected to 220 V, 50 Hz supply consists of a resistance of 100 Ω, inductive reactance of 10 Ω and a capacitive reactance of 10 Ω. Calculate the power factor of the circuit.

(a) 0.1
(b) 0.5
(c) 0.8
(d) 1.0

Answer: (d)

170. The frame of a DC generator is made of:

(a) Cast iron
(b) Copper
(c) Aluminium
(d) Bronze

Answer: (a)

171. For an ideal DC generator, voltage regulation should be
(a) infinite
(b) zero
(c) positive
(d) negative
Answer: (b)

172. If a DC series motor is started on no load, its speed will be:
(a) Zero
(b) Very small
(c) Normal
(d) Enormously high
Answer: (d)

173. The current drawn by DC motor at starting is equal to:
(a) normal current
(b) above normal current
(c) below normal current
(d) zero
Answer: (b)

175. In a three phase induction motor, speed of the ro[illegible]ng magnetic field is called :
(a) shaft speed
(b) synchronous speed
(c) slip speed
(d) effective speed
Answer: (b)

176. Frequency of rotor current in an induction motor is given by:
(a) fs
(b) f/s
(c) s/f
(d) 1/fs
Answer: (a)

177. Buchholz relay is:
(a) frequency sensitive device
(b) voltage sensitive device
(c) current sensitive device
(d) gas actuated device
Answer: (d)

178. In a synchronous motor minimum armature current corresponds to:

(a) leading power factor only
(b) unity power factor only
(c) lagging power factor only
(d) Lagging or leading power factor

Answer: (b)

180. Which one is not true for thyristor as compared to transistor?

(a) thyristor has higher internal power loss
(b) thyristor can have larger current rating
(c) thyristor has less punch through device failure
(d) thyristor has better current surge withstanding capability

Answer: (a)

Discipline5

181. UJT is a _____.

(a) 2 layer, 3 terminal device
(b) 2 layer, 2 terminal device
(c) 1 layer, 3 terminal device
(d) 3 layer, 3 terminal device

Answer: (a)

182. A single phase, half wave controlled rectifier c ains:

(a) 1 diode only
(b) 1 thyristor only
(c) 1 thyristor and 1 diode
(d) 2 thyristors

Answer: (b)

183. The maximum output voltage of a single phase half bridge inverter as compared to the single phase full bridge inverter is:

(a) Half
(b) Double
(c) Same
(d) four times

Answer: (a)

184. Thyristors can be considered as a/an:

(a) transistor
(b) controlled transistor
(c) controlled switch
(d) Amplifier

Answer: (c)

185. Chopper is a _____.
(a) DC to AC converter
(b) DC to DC converter
(c) AC to DC converter
(d) AC to AC converter
Answer: (b)

186. A step down cyclo converter is a device which converts:
(a) lower input frequency into higher output frequency
(b) higher input frequency into lower output frequency
(c) DC to AC
(d) AC to DC
Answer: (b)

188. In measurement system, the number 130.4 has how many numbers of significant figures ?
(a) 1
(b) 2
(c) 3
(d) 4
Answer: (d)

189. _____ is a passive transducer.
(a) LVDT
(b) solar cell
(c) thermocouple
(d) techogenerator
Answer: (a)

190. Orifice meter is used to measure:
(a) torque
(b) liquid flow
(c) temperature
(d) Force
Answer: (b)

191. Thermistor has the property of _____.
(a) zero temperature coefficient
(b) positive temperature coefficient
(c) negative temperature coefficient
(d) no resistance
Answer: (c)

192. Thermocouple works on:

(a) Seebeck effect

(b) Peltier effect

(c) Thomson effect

(d) Kelvin effect

Answer: (a)

194. A strain gauge of gauge factor 4 is attached to a metal wire that stretches from 10 cm to 10.1 cm. Calculate the percentage change in its resistance.

(a) 4%

(b) 3%

(c) 2%

(d) 1%

Answer: (a)

196. Which one is true about transmission line constants?

(a) BC – AD =1

(b) A has no dimension

(c) B has no dimension

(d) C has no dimension

Answer: (b)

197. Due to non uniform distribution of current, the in ase in resistance in a conductor is known as:

(a) ferranti effect

(b) proximity effect

(c) skin effect

(d) kelvin effect

Answer: (c)

198. A line which joins the energy meter of a consumer with the distributor is known as:

(a) feeder

(b) service mains

(c) distributor

(d) grid

Answer: (b)

199. The ratio of GMR to actual radius of the conductor is _____.

(a) equal to 1

(b) more than 1

(c) equal to 0.7788

(d) equal to 0.5

Answer: (c)

200. In case of a transmission line, the purpose of transposition of unsymmetrical conductors is to ____.

(a) balance line voltage drop
(b) reduce corona
(c) reduce skin effect
(d) reduce resistance

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.

Mental Ability

1	**(a)**	2	**(b)**	3	**(c)**	4	**(a)**	5	**(a)**	6	**(d)**
7	**(a)**	8	**(d)**	9	**(c)**	10	**(c)**	11	**(d)**	16	**(c)**
17	**(d)**	18	**(b)**	19	**(a)**	20	**(b)**				

General Awareness

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

Arithmetic Ability

43	**(b)**	45	**(a)**	46	**(b)**	47	**(b)**	48	**(c)**	49	**(b)**
50	**(a)**	52	**(c)**	53	**(a)**	54	**(b)**				

General English

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

Discipline1

101	**(a)**	102	**(c)**	103	**(b)**	104		09	**(c)**	110	**(a)**
111	**(b)**	114	**(b)**	115	**(a)**	116	**(c)**	117	**(d)**	118	**(b)**
119	**(c)**	120	**(b)**								

Discipline2

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

Discipline3

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

Discipline4

161	**(b)**	163	**(d)**	167	**(a)**	168	**(b)**	169	**(d)**	170	**(a)**
171	**(b)**	172	**(d)**	173	**(b)**	175	**(b)**	176	**(a)**	177	**(d)**
178	**(b)**	180	**(a)**								

Discipline5

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