RRB Ald for SSE

INSTRUCTIONS

(Please read carefully and comply)

1. Kindly read the complete set of instructions carefully and also see the instructions on the back side of the OMR Answer Sheet and fill the details in the OMR Answer Sheet and Question Booklet.
2. One paragraph each Hindi and English is given on Page 1. Copying of the paragraph in the space provided in the OMR Answer sheet (in the language as filled in the application form either in Hindi or English) in your running hand is compulsory. DO NOT USE BLOCK LETTERS.
3. (a) Question Booklet Serial No. must clearly be written and marked in the bubbles in the space provided in the OMR Answer Sheet.
   (b) OMR Sheet No. should be written in the space provided in the Question Booklet.
4. After being instructed to open the Booklet, the candidates will open the seals. It is the responsibility of the candidate to check and ensure that the booklet contains 150 questions and start the paper from page no. 18.
5. The question paper comprises 150 questions and are available in congruent versions of English, Hindi, Urdu, Kannada, Marathi, Tamil, Telugu, Konkani, Malayalam, Gujrati and Punjabi languages. In case of any doubt or confusion, English version shall prevail.
6. All Questions are of Objective type. There is only one correct answer to each question carrying one mark. There will be negative marking for wrong answers. For every wrong answer, ⅓ mark will be deducted.
7. In the event of any mistake in any question/s, candidates will not be penalized. However no corrections will be made in question/s during the examination.
8. You must use Blue or Black ball-point pen only for answering. Altering of answers once entered is not permissible. Enter the answers in the Answer Sheet carefully.
9. Rough work, if any may be done in the Question Booklet only in the space provided. No additional paper shall be provided.
10. Use of Log tables, Calculator, Slide rule, Mobile phone, Pager, Digital diary or any other electronic item/instrument etc. is not allowed. Their use will result in disqualification.
11. No candidate should leave the examination hall before the final bell. The Answer Sheet and the top sheet of the Question Booklet must be handed over to the invigilator before leaving the Examination Hall.

ENGLISH

1. What is the capital of Mizoram?
(A) Kavaratti (B) Aizawl (C) Kohima (D) Imphal

2. Which of the following countries is *not* in Asia?
(A) Kazakhstan (B) Azerbaijan (C) Tunisia (D) Yemen

3. The Supreme Court of India came into being in the year
(A) 1950 (B) 1951 (C) 1947 (D) 1948

4. First woman judge of the supreme court of India was
(A) Leila Seth (B) Cornelia Sorabji (C) Anna Chandi (D) M. Fathima Beevi

5. First Indian to win an individual Olympic Gold
(A) Abhinav Bindra (B) Sushil Kumar (C) K.D. Jadhav (D) Saina Nehwal

6. The total route length of Indian Railways is approximately
(A) 55,000 kilometres (B) 60,000 kilometres
(C) 65,000 kilometres (D) 70,000 kilometres

7. Fill in the blank:
Areawise, India is the _____ largest country in the world.
(A) fifth (B) seventh (C) eighth (D) ninth

8. The outer Himalayas, which form the foothills and lie between the middle Himalayas and the great Indian plains, are known as
(A) Himadri (B) Himachal (C) Mahendragiri (D) Shiwalik

9. L.M. Singhvi committee studied Panchayati Raj in the year
(A) 1986 (B) 1989 (C) 1980 (D) 1983

10. The wind system which has the highest air pressure at the centre and lowest air pressure at the outer margins are known as
(A) cyclone (B) jet stream (C) anticyclone (D) tornado

11. Paradip port of India mainly handles
(A) food grains and steel (B) iron ore and coal
(C) crude oil and petroleum (D) edible oil

12. Fill in the blank:
The _____ summer monsoon from the Arabian sea and the Bay of Bengal bring rainfall to almost entire India.
(A) north-west (B) north-east (C) south-west (D) south-east

13. In India, the Jnanpith Award is a
(A) film award (B) sports award (C) science award (D) literary award.

14. 'Wings of Fire' is a book written by
(A) Dr A P J Abdul Kalam (B) Khushwant Singh
(C) Vikram Seth (D) Arundhati Roy

15. As per the Indian census of 2011, the sex ratio (number of females per 1000 males) was approximately
(A) 910 (B) 920 (C) 940 (D) 960

16. Which are the species found in dry forests and arid forests of India?
(A) teak, sal, bamboo (B) bamboo, mahogany, rubber
(C) kikar, babool, date palm (D) teak, mango, neem

17. Out of the following, which place is famous for iron and steel industry?
(A) Firozabad (B) Bokaro (C) Darjeeling (D) Hathras

18. Banks in India are required to hold a certain proportion of their deposits in the form of cash. This minimum ratio as stipulated by RBI is known as
(A) bank ratio (B) repo rate (C) bank rate (D) cash reserve ratio

19. In the 17th Asian Games held in the year 2014, total number of medals won by India was
(A) 57 (B) 47 (C) 53 (D) 59

20. Which of the following states does not share boundary with Nepal
(A) Himachal Pradesh (B) Bihar (C) Uttar Pradesh (D) Sikkim

21. Tulsidas was a contemporary of
(A) Babar (B) Akbar (C) Shahjahan (D) Jahangir

22. In which months are the Kharif crops sown?
(A) March-April (B) June-July (C) September-October (D) November-December

23. Out of the following, who is not related to the Revolt of 1857?
(A) Rani Laxmi Bai (B) Nana Saheb
(C) Gopal Krishan Gokhale (D) Tantia Tope

24. The normal term of office of a member of the Rajya Sabha is
(A) 3 years (B) 4 years (C) 5 years (D) 6 years

25. The period of first five year plan was
(A) 1951-56 (B) 1952-57 (C) 1953-58 (D) 1954-59

26. The height of a cone is 40 cm. A small cone is cut off at the top of a plane parallel to its base. If its volume be $\frac{1}{64}$ of the volume of the given cone, what is the height of the small cone?
(A) 8 cm (B) 10 cm (C) 12 cm (D) 14 cm

27. Find the compound interest on Rs 14000 for 2 years at 5% per annum.
(A) Rs 1335 (B) Rs 1370 (C) Rs1410 (D) Rs 1435

28. The first term and the last term of an arithmetic progression are 9 and 69 respectively. If the sum of all the terms in 468, find the number of terms.
(A) 12 (B) 11 (C) 14 (D) 13

29. If the arithmetic mean of 25, 27, 31, 35, 39 and x is 38, find x.
(A) 69 (B) 70 (C) 71 (D) 73

30. Find the length of the platform which a train 400 m long, travelling at 45 km/hour, can cross in 40 seconds.
(A) 100 m (B) 110 m (C) 120 m (D) 150 m

31. A solid spherical metal of radius 10 cm is made into 1000 smaller solid spheres of equal sizes by melting. In this process, the total final surface area of the metal becomes X times the initial surface area. Then, X is equal to
(A) 1000 (B) 100 (C) 10 (D) 1

32. The scores of Ashok and Raju are in the ratio 5:4. If the total score of Ashok and Raju is 135, find Ashok's score.
(A) 70 (B) 75 (C) 80 (D) 85

33. If the price of milk goes up by $33\frac{1}{3}\%$, what should be the percentage by which its consumption must be reduced so that the expenditure on it remains unchanged?

(A) 25% (B) 30% (C) $33\frac{1}{3}\%$ (D) 40%

34. 20 men take 10 days to complete a job working 12 hours a day. Find the number of men required to complete a job, twice as large, in 30 days working 8 hours a day.

(A) 15 (B) 30 (C) 35 (D) 20

35. If a : b = 2 : 7, what is the value of $\frac{7a+3b}{2a+2b}$?

(A) $\frac{18}{35}$ (B) $\frac{35}{18}$ (C) $\frac{37}{18}$ (D) $\frac{7}{4}$

36. A solid sphere and a solid hemisphere have the same radius. Find the ratio of their total surface areas.

(A) 3 : 1 (B) 2 : 1 (C) 5 : 3 (D) 4 : 3

37. PQRS is a rhombus such that diagonal PR = 32 cm and diagonal QS = 24 cm. Find the perimeter of the rhombus PQRS

(A) 60 cm (B) 80 cm (C) 84 cm (D) 88 cm

38. Rahim purchased three dozens oranges at Rs 10 per dozen, two dozens oranges at Rs 15 per dozen and five dozens Oranges at Rs 16 per dozen. Find the average cost per dozen of the oranges that he purchased.

(A) Rs 14 (B) Rs 13 (C) Rs 12 (D) Rs 11

39. 1400 is divided into 4 parts such that twice the first part, thrice the second part, 4 times the third part and 12 times the last part are all equal. Find the first part.

(A) 500 (B) 550 (C) 600 (D) 650

40. $\frac{10\times0.2\times0.2\times0.1\times0.1\times10}{0.001\times0.01\times100} = ?$

(A) 20 (B) 40 (C) 200 (D) 400

41. The height of a triangle as well as its base are increased by 30% . find the percentage increase in its area

(A) 15% (B) 30% (C) 45% (D) 69%

42. Raju purchased some goods for Rs 1800. He sold one-third of the goods purchased at 20% less. Find the profit percentage at which the rest of the goods must be sold to realize an overall profit of 20%.
(A) 30% (B) 35% (C) 40% (D) 50%

43. A goat is tied to a corner of a square field of side 20 m with a rope of length 14 m. Find the area of the square field that the goat cannot graze.
(A) 287 sq. m (B) 246 sq. m (C) 226 sq. m (D) 208 sq. m

44. $\frac{0.1\times0.1\times0.1\times10\times10\times2\times31}{0.1\times0.1\times10} = ?$
(A) 62 (B) 620 (C) 31 (D) 310

45. A car covers a certain distance at 90 km/hour speed and returns back to the starting point at 60 km/hour speed. Find its average speed for the entire journey.
(A) 70 km/hour (B) 72 km/hour (C) 75 km/hour (D) 80 km/hour

46. A room is 12 m long, 4 m broad and 3 m high. Find the length of the longest possible rod that can be placed within it.
(A) 12 m (B) 13 m (C) 14 m (D) 15 m

47. Find out the HCF of 204, 1190 and 1445, and find out the correct option.
(A) 17 (B) 18 (C) 19 (D) 34

48. The speeds of three trains are in the ratio 3 : 4 : 5. The ratio between the times taken by them to travel a fixed distance is
(A) 3 : 4 : 5 (B) 5 : 4 : 3 (C) 20 : 15 : 12 (D) 12 : 15 : 20

49. The ages of Ashok and Raju are in the ratio 5 : 7. Eight years ago, their ages were in the ratio 7 : 13. Find their present ages.
(A) 15 years and 18 years (B) 20 years and 28 years
(C) 10 years and 14 years (D) 15 years and 21 years

50. If John's salary is 20% less than that of Rita, then how much per cent is Rita's salary more than John?
(A) 20% (B) 21% (C) 23% (D) 25%

51. In a row of boys, Kamal is fifth from the left and Tarun is sixth from the right. When they exchange their positions, Kamal becomes thirteenth from the left. What will be Tarun's position from the right?
(A) 10th (B) 14th (C) 16th (D) 18th

52. If *A* stands for '+', *B* stands for '–', *C* stands for '×', then what is the value of
(10 *C* 4) *A* (4 *C* 4) *B* 6?
(A) 54 (B) 56 (C) 52 (D) 50

53. The number of boys in a class is exactly three times the number of girls. Which one of the following numbers cannot represent the total number of children in the class?
(A) 62 (B) 68 (C) 72 (D) 88

54. A family has a man, his wife, their four sons and their wives. The family of every son also has 2 sons and one daughter. Find out the total number of female members in the whole family.
(A) 13 (B) 11 (C) 9 (D) 7

55. Six boys *A*, *B*, *C*, *D*, *E* and *F* are sitting in a row facing towards north. *C* is sitting between *A* and *E*. *D* is not at the end. *B* is sitting immediate right to *E*. *F* is not at the right end. How many persons are there to the right of *D*?
(A) two (B) three (C) four (D) five

56. *A* is 3 years older than *B* and 3 years younger than *C*, while *B* and *D* are twins. How many years older is *C* than *D*?
(A) 6 (B) 3 (C) 2 (D) equal in age

57. A total of 324 coins of 20 paise and 25 paise make a sum of Rs.71. the number of 20 paise coins is
(A) 124 (B) 144 (C) 150 (D) 200

58. Anil walks 10 km towards north. From there he walks 6 km towards south. Next, he walks 3 km towards east. How far and in which direction is he with reference to his starting point?
(A) 5 km west (B) 8 km west (C) 5 km north-east (D) 5 km south-east

59. Identify the wrong number in the series: 69, 55, 26, 13, 5
(A) 69 (B) 26 (C) 13 (D) 5

60. How many terms are there in the series 201, 208, 215, 222, ... , 369?
(A) 23 (B) 25 (C) 27 (D) 29

61. Most accurate holes are produced by the following sequence of operations:
(A) centring, drilling, reaming and boring
(B) drilling, centring, reaming and boring
(C) drilling, centring, boring and reaming
(D) centring, drilling, boring and reaming

62. The energy of thermal radiation u emitted per unit time by a blackbody of surface area A at temperature T (in absolute scale) is given by

$u = \sigma AT^4$ (where σ = Stefan-Boltzmann constant)

The above statement is

(A) Stefan-Boltzmann law
(B) Kirchhoff's law
(C) Wien's displacement law
(D) Prevost law

63. SI unit of thermal conductivity is

(A) $\frac{\text{metre - kelvin}}{\text{watt}}$ (B) $\frac{\text{watt}}{\text{metre - kelvin}}$ (C) $\frac{\text{watt}}{(\text{metre})^2\,\text{kelvin}}$ (D) $\frac{\text{kelvin}}{\text{watt - metre}}$

64. Forged crankshafts are widely used due to their

(A) low cost
(B) good look
(C) lighter weight and compact dimensions
(D) better ability to transfer heat

65. Fill in the blank:

Two-stroke internal combustion engines are used where low cost, compactness and _____ are of important considerations.

(A) good look
(B) high volumetric efficiency
(C) light weight
(D) high thermal efficiency

66. For a perfect gas, $\frac{V}{T}$ = constant, if P is held constant, where V = volume, T = Temperature (kelvin) and P = pressure. This gas law is

(A) Boyle's law (B) Avogadro's law (C) Gay-Lussac's law (D) Charles's law

67. If a gas is heated against a pressure, keeping the volume constant, then the work done will be

(A) positive
(B) negative
(C) equal to zero
(D) equal to pressure × volume

68. Two cylinders A and B fitted with massless pistons contain equal amounts of an ideal diatomic gas at 300 K. The piston of A is free to move, while that of B is held fixed. The same amount of heat is given to the gas in each cylinder. If the rise in temperature of the gas in A is 30 K, then rise in temperature of the gas in B is

(A) 50 K (B) 42 K (C) 30 K (D) 18 K

69. Plasma-arc welding is often used where deep and narrow welds are required. A plasma is a

(A) ionized hot gas
(B) beam of electrons
(C) beam of protons
(D) beam of alpha particles

70. Hollow cylindrical parts are generally produced by
(A) die casting
(B) true centrifugal casting
(C) investment casting
(D) squeeze casting

71. The approximate flame temperature produced by oxy-acetylene flame is
(A) 2200 °C to 2500 °C
(B) 2600 °C to 3000 °C
(C) 3200 °C to 3500 °C
(D) 3700 °C to 4000 °C

72. Which of the following methods is *not* used to improve fatigue strength of manufactured products.
(A) increasing surface roughness
(B) providing fine surface finish
(C) shot-peening
(D) roller burnishing

73. Compression ratio of diesel engines usually is in the range of
(A) 7 : 1 to 10 : 1 (B) 11 : 1 to 13 : 1 (C) 15 : 1 to 21 : 1 (D) 25 : 1 to 31 : 1

74. The main advantage of the just-in-time production (JIT) is
(A) low rejection rate
(B) low inventory-carrying costs
(C) fast detection of defects
(D) production of high quality products

75. When a body is deformed, the elastic potential energy of the body is equal to
(A) $\frac{1}{2} \times (\text{stress})^2 \times \text{strain} \times \text{volume}$
(B) $\frac{1}{2} \times \text{stress} \times (\text{strain})^2 \times \text{volume}$
(C) $\frac{1}{2} \times \text{stress} \times \text{strain} \times (\text{volume})^2$
(D) $\frac{1}{2} \times \text{stress} \times \text{strain} \times \text{volume}$

76. 'poise' is the unit of
(A) surface tension (B) viscosity (C) impulse (D) pressure

77. Surface tension of a liquid is
(A) a force per unit area
(B) the surface energy per unit length
(C) the surface energy per unit area
(D) a force per unit volume

78. A horizontal force of 10 newton is necessary to just hold a block stationary against a vertical wall. The coefficient of friction between the block and the wall is 0.2. The weight of the block is
(A) 2 newtons (B) 10 newtons (C) 20 newtons (D) 40 newtons

79. Low-carbon steel (mild steel) has
(A) more than 0.60 % carbon
(B) less than 0.60 % carbon
(C) more than 0.30 % carbon
(D) less than 0.30 % carbon

80. For production of ordinary Portland cement, to sinter the materials into clinker, materials are heated up to
(A) about 1400 °C – 1500 °C
(B) about 600 °C – 700 °C
(C) about 900 °C – 1000 °C
(D) about 300 °C – 400 °C

81. Which material, out of the following, is not used for reinforcement in reinforced concrete?
(A) steel (B) copper (C) glass fibre (D) fibres of polymer

82. While taking measurement using vernier callipers, zero error is always _____ from measured length.
(A) algebraically subtracted
(B) ignored
(C) algebraically added
(D) multiplied by 2 and then algebraically added

83. A screw gauge gives the following readings when used to measure the diameter of a wire.
Main scale reading : 0 mm
Circular scale reading : 52 divisions
Given that 1 mm on main scale corresponds to 100 divisions of the circular scale. The diameter of wire from the above data is
(A) 0.005 cm (B) 0.026 cm (C) 0.052 cm (D) 0.52 cm

84. Working Principle of a Thermocouple is based on
(A) Huygens' principle
(B) Prevost theory of exchange
(C) Newton's law of cooling
(D) thermoelectric effect

85. Fill in the blank :
_____ is zero-referenced against ambient air pressure.
(A) Absolute pressure (B) Gauge pressure (C) Differential pressure (D) Total pressure

86. The younger, outermost wood, which is living wood in a growing tree, is known as
(A) softwood (B) outerwood (C) whitewood (D) sapwood

87. The girders made up from separate structural steel plates by welding or revetting, are known as
(A) web girders (B) flange girders (C) plate girders (D) rolled girders

88. The strength of a beam section depends upon
(A) its length (B) its sectional area (C) its section modulus (D) its weight

89. The maximum shear stress occurs on
(A) 45° with principal planes
(B) principal planes
(C) 30° with principal planes
(D) 90° with principal planes

90. The surveying instrument which is used for rapid measurements of distance to target, which operates electronically or electro-optically and measures distance indirectly, is
(A) prismatic compass (B) tacheometer (C) sextant (D) pentaprism

91. A relay that uses an electromagnet to control one or more switches and the contacts are of magnetic material and the electromagnet acts directly on them without requiring an armature to move them, is known as a

(A) reed relay (B) solid-state relay (C) latching relay (D) coaxial relay

92. Diverting a small amount of the power generated by the generator to an electromagnetic field coil allows the generator to produce substantially more power. This concept is called

(A) feed-back excitation (B) booster-excitation
(C) self-excitation (D) supercharge-excitation

93. The series-wound dc motor develops its highest torque at

(A) high speed (B) low speed (C) medium speed (D) very high speed

94. Compared to induction motors, power factor of synchronous motors

(A) is lower (B) may be higher or lower
(C) is same (D) is better

95. Fill in the blank :

_____ operate so quickly that they limit the total energy that passes into the circuit after development of the fault, helping to protect downstream equipment from damage.

(A) Current-limiting fuses (B) High voltage fuses
(C) High power fuses (D) Glass cartridge fuses

96. Electric current induced within conductors by a changing magnetic field in the conductor, which flow in closed loops within conductors, is known as

(A) Lenz's current (B) Fleming's current (C) eddy current (D) secondary current

97. Dimensions of Inductance :

(A) $\text{length}^2 \times \text{mass} \times \text{time}^3 \times \text{electric current}^{-2}$

(B) $\text{length}^2 \times \text{mass}^2 \times \text{time}^{-2} \times \text{electric current}^{-2}$

(C) $\text{length}^2 \times \text{mass} \times \text{electric current}^{-2} \times \text{time}^{-2}$

(D) $\text{length}^2 \times \text{mass} \times \text{time}^{-2} \times \text{electric current}^{-2}$

98. By operating at higher frequencies, transformers

(A) can be physically more compact (B) will be heavier and bigger
(C) will operate with less core loss (D) will be able to reduce conductor skin effect

99. If R_0 and R_t are the values of electrical resistance at 0°C and t°C respectively and α is the temperature coefficient of resistivity of the material, then over a temperature range that is not too large, we have approximately

(A) $R_t = R_0(1 - \alpha t)$ (B) $R_t = R_0(1 + \alpha t)$ (C) $R_t = R_0(1 - \alpha t^2)$ (D) $R_t = R_0(1 + \alpha t^2)$

100. If a difference of temperature is maintained between the junctions of a circuit consisting of two different metallic conductors, an electric current is set up in the circuit. This is
(A) Peltier effect (B) Thomson effect (C) Seebeck effect (D) Joule effect

101. The ratio of peak value of modulating signal to the peak value of carrier wave is known as
(A) modulation ratio (B) modulation index
(C) modulation number (D) modulation power

102. In *P*-type semiconductors, conduction of electricity is due to
(A) motion of holes (B) motion of negative charges
(C) motion of electrons (D) motion of electrons and holes

103. P-N junction diode is equivalent to a
(A) resistor (B) OR logic gate (C) capacitor (D) NAND logic gate

104. A transistor cannot be used as
(A) amplifier (B) rectifier (C) oscillator (D) both (A) and (C)

105. Choose the correct statement :
(A) Commons base amplifiers give higher power gain than common-emitter amplifier.
(B) Common-base amplifiers give higher current gain than common-emitter amplifier.
(C) In common-base amplifier the emitter terminal is common to both input and output circuits.
(D) Common-emitter amplifiers give higher power gain than common base amplifiers.

106. Fill in the blank :
Half-wave rectification requires _____ in a three-phase supply.
(A) a single diode (B) two diodes (C) three diodes (D) four diodes

107. Fill in the blank :
A silicon crystal doped with _____ results in a *n*-type semiconductor.
(A) phosphorus (B) indium (C) boron (D) aluminium

108. Intrinsic carrier concentration of silicon at room temperature is about
(A) $9.65 \times 10^8/cm^3$ to $1.08 \times 10^9/cm^3$ (B) $9.65 \times 10^9/cm^3$ to $1.08 \times 10^{10}/cm^3$
(C) $8.65 \times 10^7/cm^3$ to $1.01 \times 10^8/cm^3$ (D) $8.65 \times 10^{11}/cm^3$ to $1.01 \times 10^{12}/cm^3$

109. The junction diode, formed from a metal-semiconductor junction rather than a *p-n* junction, is known as
(A) Schottky diode (B) metal diode (C) Fleming diode (D) Bose diode

110. Which of the following Logic Gates may be called a Universal Logic Gate ?
(A) AND (B) OR (C) NOT (D) NOR

111. The chord of the ellipse through its one focus and perpendicular to the major axis or parallel to the directrix, is called the
(A) auxiliary line of the ellipse (B) perpendicular chord of the ellipse
(C) parallel chord of the ellipse (D) latus rectum of the elipse

112. In orthographic projection, if the object lies between the observer and the plane of projection, it is called
(A) first angle projection (B) second angle projection
(C) third angle projection (D) plane projection

113. An elevation is a
(A) top view (B) bottom view (C) side view (D) sectional view

114. Find out the statement which is TRUE :
(A) Isometric projections are same as perspective projections.
(B) Objects drawn with isometric projection do not appear smaller as they extend away from the viewer.
(C) lines drawn along the three coordinate axes are at 100° to one another.
(D) In isometric projection, all the three coordinate axes do not appear equally foreshortened.

115. A diagram that represents workflow or process, showing the steps as boxes of various kinds, and their order by connecting them with arrows, is known as a
(A) bar chart (B) scatter diagram (C) flow chart (D) Venn diagram

116. Computer languages which can easily interact with the hardware, are called
(A) hard languages (B) high level languages
(C) low level languages (D) middle level languages

117. A computer virus is
(A) a hardware (B) a computer program
(C) a client server (D) a read-only memory

118. Movement of information in the Internet is achieved via a system of interconnected computer networks that share data by using the
(A) standard internet protocol suite (B) e-mail
(C) copper wires (D) public switched telephone networks

119. A web page is a web document on the World Wide Web, usually in
(A) MS - Excel (B) MS - Access (C) MS - DOS (D) HTML format

120. Which of the following statements is NOT true about Microsoft Windows?
(A) This is a series of operating systems.
(B) Windows is written in FORTRAN language.
(C) Multilingual support is built into windows.
(D) Windows is used for personal computers.

121. Where all active programs and data of a computer are stored, so that they are readily available and easily accessed by the Central Processing Unit, that is known as
(A) read-only memory
(B) random added memory
(C) ready access memory
(D) random access memory

122. Which of the following devices is *not* an output device?
(A) visual display unit (B) plotter
(C) key board
(D) printer

123. Which of the following is not a Computer Operating System?
(A) MS - DOS
(B) COBOL
(C) WINDOWS
(D) LINUX

124. A byte represents a group of
(A) 8 bits
(B) 10 bits
(C) 22 bits
(D) 32 bits

125. Out of the following computer languages, which was the first language to appear ?
(A) PASCAL
(B) C++
(C) JAVA
(D) FORTRAN

126. Thermal pollution is the rise in the temperature of a natural water body caused by human influence. Elevated water temperature
(A) increases oxygen level
(B) decreases oxygen level
(C) does not affect oxygen level
(D) may increase or decrease oxygen level

127. Methane gas
(A) is a greenhouse gas
(B) is harmful to the ozone layer
(C) is a radioactive pollutant
(D) produces very strong acid

128. Fill in the blank :
Freshwater in the world is only about _____ of the total water available on this planet.
(A) 0.5%
(B) 1%
(C) 2.5%
(D) 4.5%

129. Electrical power plants utilizing coal are among the greatest contributors to gaseous pollutions that are responsible for
(A) greenhouse effect
(B) decrease in nitrogen level
(C) decrease in water vapour
(D) acid rain

130. The process by which absorption of radiation and emission of infrared radiation by gases in a planet's atmosphere warm its lower atmosphere, is known as
(A) gas effect (B) radiation effect (C) infrared effect (D) greenhouse effect

131. Cranial nerves emerge from the
(A) brain
(B) central part of spinal cord
(C) lower part of spinal cord
(D) upper part of spinal cord

132. Rules of inheritance of traits in human beings were worked out by
(A) Miller (B) Urey (C) Mendel (D) Haldane

133. Oxygen-rich blood from the lungs comes to the
(A) right atrium of the heart
(B) left atrium of the heart
(C) right ventricle of the heart
(D) septum of the heart

134. Ozone at the higher levels of the atmosphere is a product of
(A) infrared radiation acting on oxygen molecules
(B) infrared radiation acting on nitrogen molecules
(C) ultraviolet radiation acting on nitrogen molecules
(D) ultraviolet radiation acting on oxygen molecules

135. Feeding connections in an ecological community is depicted by a
(A) food system (B) food link (C) food web (D) ecological link

136. A three-carbon chain with a double bond is called propene and if it has a triple bond, it would be called
(A) propanone (B) propyne (C) propin (D) propanal

137. Polymers formed by direct addition of repeated monomers without elimination of any by-product product molecules are known as
(A) total polymers
(B) condensation polymers
(C) addition polymers
(D) long chain polymers

138. The xylem in plants are responsible for
(A) transport of water
(B) transport of food
(C) transport of oxygen
(D) transport of amino acids

139. Many bacteria and protozoa simply divide into two or more daughter cells. This process is known as
(A) propagation (B) fission (C) budding (D) fragmentation

140. Each kidney has a large number of filtration units called
(A) filtrons (B) cup filters (C) bladder (D) nephrons

141. A pair of equal and opposite forces with different lines of action is known as a couple. A couple produces
(A) rotation and translation
(B) rotation without translation
(C) translation without rotation
(D) first rotation and then translation

142. Lattice energy of an ionic compound depends upon
(A) charge on the ion only
(B) packing of ions only
(C) size of the ion only
(D) charge on the ion and size of the ion

143. How many molecules of sulphur are present in 256 grams of sulphur (S_8) ?
(A) 1.505×10^{23} molecules
(B) 2.007×10^{23} molecules
(C) 6.023×10^{23} molecules
(D) 12.046×10^{23} molecules

144. The treatment of the ore with suitable reagents which can selectively dissolve the ore but not the impurities, is known as
(A) leaching (B) roasting (C) smelting (D) amalgamation

145. In how many vertical columns (groups) are the elements in the modern Periodic Table arranged?
(A) 15 (B) 16 (C) 17 (D) 18

146. When a spherical body of radius a, falls through a fluid of coefficient of viscosity η with a velocity v, the viscous drag force F is equal to
(A) $2\pi\eta av$ (B) $2\pi\eta a^2v$ (C) $6\pi\eta a^2v$ (D) $6\pi\eta av$

147. When a body is submerged in a fluid, the ratio of hydraulic stress to the corresponding hydraulic strain is called
(A) bulk modulus (B) compressibility (C) shear modulus (D) Young's modulus

148. Two sound waves having equal amplitude but slightly different frequencies f_1 and f_2, produce beats whose frequency is
(A) $f_1 \times f_2$ (B) $2 \times f_1 \times f_2$ (C) $|f_1 - f_2|$ (D) $f_1 + f_2$

149. Starting with the same initial conditions, an ideal gas expands from volume V_1 to V_2 in three different ways. The work done by the gas is W_1, if the process is purely isothermal; W_2, if purely isobaric and W_3, if purely adiabatic. Then
(A) $W_2 > W_1 > W_3$ (B) $W_1 > W_2 > W_3$ (C) $W_1 > W_3 > W_2$ (D) $W_1 > W_3 > W_2$

150. When plane mirror is rotated through an angle θ, the reflected ray turns through
(A) θ (B) 2θ (C) 3θ (D) $\theta/2$