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(Held on 21-12-2014)

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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 in Hindi and English is given in 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. **14**.

5. The question paper comprises **150** questions and are available in congruent versions of English, Hindi, Urdu, Assamese, Bengali, Manipuri, Odia, Telugu, Marathi, Gujarati and Kannada 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, 1/3 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 at the end of the Booklet. 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 as well as the Top Sheet of the Question Booklet should be handed over together to the invigilator before leaving the Examination Hall.

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SECTION - I

ENGLISH

1. To be eligible for membership of the Lok Sabha, a person should be atleast :
   (A) 18 years of age   (B) 30 years of age
   (C) 35 years of age   (D) 25 years of age

2. In a transformer, electrical power is transferred from one circuit to another circuit without change in :
   (A) Frequency   (B) Voltage   (C) Current   (D) All of these

3. With which one of the following movements is the slogan "Do or Die" associated ?
   (A) Swadeshi Movement   (B) Non-Cooperation Movement
   (C) Civil Disobedience Movement   (D) Quit India Movement

4. Ravi spends $\frac{2}{5}$ of his salary on House Rent; $\frac{3}{10}$ of his salary on Food and $\frac{1}{8}$ of his Salary on Conveyance. After this, he is left with ₹ 1400. Find his expenditure on Food.
   (A) ₹ 8000   (B) ₹ 3200   (C) ₹ 2400   (D) ₹ 1000

5. The length of a line measured with 20 m chain is found to be 400 m. If the actual length of the chain is 20.05 m, then the true length of the line is :
   (A) 400.50 m   (B) 401.50 m   (C) 402.50 m   (D) 401.0 m

6. If $3x + 7 = x^2 + p = 7x + 5$, then the value of 'p' will be :
   (A) $\frac{1}{2}$ (B) $8\frac{1}{2}$ (C) $2\sqrt{2}$ (D) $8\frac{1}{4}$

7. Chain surveying is well adopted for :
   (A) Small areas in open ground   (B) Large areas with simple details
   (C) Small areas with crowded details (D) Large areas with difficult details

8. The most ideal disinfectant used for drinking water is :
   (A) Alum   (B) Chlorine   (C) Lime   (D) Nitrogen

9. Age of a Tree may be ascertained by :
   (A) Radius of its Stem   (B) Number of Annual Rings
   (C) Number of Branches   (D) Circumference of its Stem

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10. Stiffners are used in a Plate Girder to :
    (A) Avoid buckling of web plate
    (B) Reduce the shear stress
    (C) Reduce the compressive stress
    (D) Take the bearing stress

11. If $\log_{10} 7 = x$, then the value of $\log_{10}\left(\dfrac{1}{70}\right)$ is equal to :

    (A) $-(1+x)$
    (B) $(1+x)^{-1}$
    (C) $\dfrac{x}{10}$
    (D) $\dfrac{1}{10x}$

12. The ozone layer is useful for living beings because :
    (A) It serves as the source of oxygen
    (B) It maintains the temperature of the earth
    (C) It maintains the Nitrogen cycle of the earth
    (D) It protects them from harmful ultraviolet rays of the sun

13. To obtain the P-type semiconductor :
    (A) A pentavalent Impurity is added
    (B) A trivalent Impurity is added
    (C) Both are added
    (D) None of these

14. Which one of the following places was associated with the beginning of Vinoba Bhave's Bhoodan Movement ?
    (A) Dandi
    (B) Kheda
    (C) Pochampalli
    (D) Champaran

15. Nature's cleaners are :
    (A) Producers
    (B) Consumers
    (C) Decomposers
    (D) Carnivores

16. Which one of the following is generally added to Table Salt to make it flow freely in rainy season ?
    (A) $Ca_3(PO_4)_2$
    (B) Na_3PO_4
    (C) KCl
    (D) KI

17. Which one of the following is **not** a prime number ?
    (A) 71
    (B) 91
    (C) 61
    (D) 31

18. To close a presentation and quit PowerPoint, one must click the close button on the :
    (A) menu bar
    (B) title bar
    (C) standard tool bar
    (D) common tasks tool bar

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19. Which Junction Transistor is preferred for high input and low output impedances ?
    (A) Common Collector   (B) Common Base
    (C) Common Emitter   (D) Any one of these

20. Find the value of :

$$\frac{(489 + 375)^2 - (489 - 375)^2}{(489 \times 375)}$$

    (A) 144   (B) 864   (C) 2   (D) 4

21. Expression $+ + i$ is equivalent in 'C' to :
    (A) $i = i + 1$ (B) $i = i + 2$ (C) $i = 2i$ (D) None of these

22. Who is the Chairman of Rajya Sabha ? (As on 01.11.2014)
    (A) Sumitra Mahajan   (B) Hamid Ansari
    (C) Arun Jaitley   (D) Thambi Durai

23. In Orthographic projection, visual rays or lines of sight for a given view are _____ to each other.
    (A) Parallel   (B) Normal   (C) Oblique   (D) None of these

24. The speed of a boat in downstream direction is 14 km/hour and in upstream direction is 8 km/hour. Find the speed of this boat in still water :
    (A) 22 km/hour   (B) 6 km/hour   (C) 3 km/hour   (D) 11 km/hour

25. Valence electrons in the element A are 3 and that in element B are 6. Most probable compound formed from A and B is :
    (A) A_2B (B) AB_2 (C) A_2B_3 (D) A_3B_2

26. Identify the cyclone which caused large scale destructions in Vishakhapatnam this year in October ?
    (A) Phailin   (B) Katrina   (C) Hudhud   (D) Nilofar

27. The losses in a transformer are :
    (i) Copper loss   (ii) Eddy current loss   (iii) Hysteresis loss
    The constant power loss of a transformer is given by :
    (A) (i) only   (B) (ii) only   (C) (iii) only   (D) (ii) and (iii) only

28. If 15% of x % of 582 = 17.46, then find the value of 'x' :
    (A) 2   (B) 10   (C) 15   (D) 20

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29. The distance between C.G. of compression and C.G. of Tension Flanges of a Plate Girder is known as :

(A) Clear depth   (B) Effective depth   (C) Overall depth   (D) None of these

30. Errors which may be variable both in magnitude and nature (positive or negative) are classified as _____ error.

(A) Hysteresis   (B) Random   (C) Interaction   (D) Systematic

31. If whole Circle Bearing of a line is 120°, then its Reduced Bearing is :

(A) S 20°E   (B) S 60°E   (C) N 120°E   (D) N 60°E

32. Which law of thermodynamics defines Entropy ?

(A) Zeroth (B) First   (C) Second   (D) Third

33. The perimeter of a rectangle is 46 cm. The length of a diagonal of this rectangle is 17cm. Find the area of this rectangle.

(A) 240 cm^2 (B) 529 cm^2 (C) 289 cm^2 (D) 120 cm^2

34. Complete the following series :

0, 6, 24, 60, 120, 210, ____?____ .

(A) 336   (B) 240   (C) 410   (D) 360

35. The average of six numbers is 3.95. If the average of first two numbers is 3.40 and the average of next two numbers is 3.85, then find the average of the remaining two numbers.

(A) 4.6   (B) 4.7   (C) 4.8   (D) 4.5

36. When an object is cut by a section plane parallel to horizontal plane and perpendicular to vertical plane, then the sectional view of the object is obtained in :

(A) Front view   (B) Left side view   (C) Right side view   (D) Top view

37. Find the value of :

$(51 + 52 + 53 + 54 + ... + 100)$

(A) 3775   (B) 5050   (C) 1275   (D) 2525

38. For a PN Junction, when the N-side is more positive than the P-side ; the diode is said to be :

(A) Forward Biased and a large current exists

(B) Forward Biased and a small current exists

(C) Reverse Biased and a large current exists

(D) Reverse Biased and a small current exists

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39. Find compound interest on ₹ 7,500 at the rate of 4% per annum for 2 years, compounded annually ?

(A) ₹ 612   (B) ₹ 300   (C) ₹ 600   (D) ₹ 630

40. Sampling Theorem finds application in :

(A) Amplitude Modulation   (B) Frequency Modulation
(C) Pulse Code Modulation   (D) None of these

41. Find 63% of $3\frac{4}{7}$:

(A) 2.25   (B) 2.40   (C) 2.50   (D) 2.75

42. Which one of the following is renewable resource ?

(A) Coal   (B) Petroleum   (C) Natural Gas   (D) Wind

43. Who is the Chief Minister of Haryana ? (As on 01.11.2014)

(A) Manohar Lal Khattar   (B) Sushma Swaraj
(C) Om Prakash Chautala   (D) Bhupendra Singh Hooda

44. Aluminium is commonly used as conductor material in transmission lines compared to copper because :

(A) It is more conductive   (B) Its tensile strength is more
(C) It is costlier   (D) It is cheaper and lighter

45. Power Factor of the following circuit will be unity :

(A) Inductance   (B) Resistance
(C) Capacitance   (D) Inductance and Capacitance

46. If a system in equilibrium is subjected to a change of concentration; temperature or pressure, the equilibrium shifts in a direction that tends to undo the effect of the change imposed. This is known as :

(A) Le Chatelier's Principle   (B) Law of Mass Action
(C) Van der Waals Principle   (D) None of these

47. In Sand Moulding, the top flask is known as :

(A) Cope   (B) Drag   (C) Fillet   (D) Check

48. Which of these will **not** be oxidised by Ozone ?

(A) KI   (B) $FeSO_4$ (C) $KMnO_4$ (D) K_2MnO_4

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49. The property of a soil, which permits water to percolate through it, is called :

(A) Moisture content   (B) Capillarity

(C) Permeability   (D) None of these

50. Find the distance of object from a concave mirror of focal length 10 cm so that the size of its real image is four times the size of the object.

(A) 7.5 cm   (B) 5 cm   (C) 2.5 cm   (D) 12.5 cm

51. Which one of the following is an advantage of Forging ?

(A) Improved Physical Property   (B) Close Tolerance

(C) Low Tooling Cost   (D) Good Surface Finish

52. Find the L.C.M. of $\frac{1}{3}, \frac{5}{6}, \frac{2}{9}, \frac{4}{27}$:

(A) $\frac{1}{54}$ (B) $\frac{10}{27}$ (C) $\frac{20}{3}$ (D) None of these

53. Who of the following is regarded as the architect of the Indian Constitution ?

(A) Pandit Nehru   (B) B.R. Ambedkar

(C) Mahatma Gandhi   (D) Rajendra Prasad

54. Identify the Mughal Emperor who gave permission to East India Company to establish their factory at Surat :

(A) Akbar   (B) Jahangir   (C) Shahjahan   (D) Aurangzeb

55. Which of the following rational relation operations in 'C' means "not equal to" ?

(A) #   (B) ==   (C) !=   (D) <=

56. The ruler of which of the following States was removed from power by the British on the pretext of misgovernance ?

(A) Awadh   (B) Jhansi   (C) Satara   (D) Nagpur

57. Triple Vaccine is administered to a new born child to immunize against :

(A) Whooping Cough, Tetanus and Measles

(B) Whooping Cough, Tetanus and Diphtheria

(C) Tetanus, Diphtheria and Small pox

(D) Tetanus, Typhoid and Hepatitis

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58. Spot welding is an example of _____ welding.
    (A) Gas   (B) Resistance
    (C) Arc   (D) Tungsten Inert Gas

59. Microsoft Windows is a/an :
    (A) Word-processing program   (B) Database program
    (C) Operating system   (D) Graphics program

60. In a three-hinged arch, the Bending Moment will be zero at :
    (A) Right Hinge Only   (B) Left Hinge Only
    (C) Both Right and Left Hinges   (D) All the three Hinges

61. In Drawing, the surface roughness is represented by :
    (A) Circles   (B) Squares   (C) Triangles   (D) Zig - Zag lines

62. Welding Generators do have :
    (A) Delta winding   (B) Wave winding
    (C) Lap winding   (D) Duplex winding

63. Find the missing term of the following series :
    1, 3, 3, 6, 7, 9, 13, _____, 21
    (A) 14   (B) 12   (C) 11   (D) 10

64. Four wires of same material, same cross section area and the same length, when connected in parallel, give effective resistance of 0.25 ohm. If these four wires are connected in series, then the effective resistance will be :
    (A) 4 ohm   (B) 1 ohm   (C) 2 ohm   (D) 0.50 ohm

65. Manoj can complete a journey in 10 hours. He travels first half of the journey at the speed of 21 kmph and second half of the journey at the speed of 24 kmph. Find the total journey :
    (A) 230 km   (B) 234 km   (C) 220 km   (D) 224 km

66. _____ will translate the complete program at once from a High Level Language to the Machine Language.
    (A) Compiler   (B) Joy stick   (C) Ports   (D) Light pen

67. Palitana Temples are located near :
    (A) Bhavnagar, Gujarat   (B) Ujjain, Madhya Pradesh
    (C) Nasik, Maharashtra   (D) Varanasi, Uttar Pradesh

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68. A barometer measures :
     (A) Absolute pressure   (B) Atmospheric pressure
     (C) Gauge pressure   (D) Vacuum

69. Arrange the fractions $\frac{5}{8}, \frac{7}{12}, \frac{13}{16}, \frac{16}{29}$ and $\frac{3}{4}$ in ascending order of magnitude :

     (A) $\frac{16}{29} < \frac{7}{12} < \frac{5}{8} < \frac{3}{4} < \frac{13}{16}$ (B) $\frac{16}{29} < \frac{5}{8} < \frac{7}{12} < \frac{13}{16} < \frac{3}{4}$

     (C) $\frac{3}{4} < \frac{13}{16} < \frac{7}{12} < \frac{5}{8} < \frac{16}{29}$ (D) $\frac{3}{4} < \frac{5}{8} < \frac{7}{12} < \frac{13}{16} < \frac{16}{29}$

70. The value of $\Sigma \frac{dQ}{T}$ for an irreversible process is :

     (A) Less than zero   (B) Greater than zero
     (C) Equal to zero   (D) Any one of these

71. Schmitt trigger is used for :
     (A) Voltage to frequency conversion   (B) Changing the level of the signal
     (C) Squaring a wave   (D) None of these

72. The Height, Width and Depth of an object can be shown with a minimum of how many Orthographic projection views ?
     (A) Six   (B) Three   (C) Two   (D) Four

73. A correct food chain is :
     (A) Producers, Herbivores, Carnivores
     (B) Producers, Carnivores, Herbivores
     (C) Herbivores, Carnivores, Producers
     (D) Herbivores, Producers, Carnivores

74. If $\left(\frac{a}{b}\right)^{x-1} = \left(\frac{b}{a}\right)^{x-3}$, then the value of 'x' is :

     (A) $\frac{1}{2}$ (B) 1   (C) 2   (D) -1

75. The Air-Fuel ratio of the Petrol Engine is controlled by :
     (A) Carburettor   (B) Injector   (C) Governor   (D) Fuel Pump

76. Which of the following is an SI Engine ?

(A) Diesel Engine   (B) Petrol Engine   (C) Gas Engine   (D) None of these

77. Earthworm belongs to following animal phyla ?

(A) Porifera   (B) Annelida   (C) Mollusca   (D) Arthropoda

78. Which of the following cycles is used in thermal power plants ?

(A) Rankine   (B) Carnot   (C) Otto   (D) Joule

79. If the fundamental frequency of a pipe closed at one end and open at another end is 512 Hz. The fundamental frequency of a pipe of the same dimension but open at both ends will be :

(A) 1024 Hz   (B) 64 Hz   (C) 256 Hz   (D) 128 Hz

80. The United Nations Day (U.N. Day) is celebrated every year on :

(A) Oct. 24   (B) Nov. 6   (C) Dec. 26   (D) March 1

81. Filler Metal is used in :

(A) Seam welding   (B) Spot welding

(C) Projection welding   (D) Gas welding

82. The word function that corrects text as we type is referred to as :

(A) Auto insert   (B) Auto correct

(C) Auto summarize   (D) Track changes

83. Primary Storage, in computer terminology, refers to :

(A) Hard Disc Drive

(B) Random Access Memory (RAM)

(C) Read Only Memory (ROM)

(D) The storage device where the operating system is stored

84. In a certain code language, '253' means 'books are old'; '546' means 'man is old' and '378' means 'buy good books'. Which number in that language means 'are' ?

(A) 5   (B) 3   (C) 7   (D) 2

85. Find the value of $(0.000216)^{\frac{1}{3}}$:

(A) 0.6   (B) 0.06   (C) 0.006   (D) 0.0006

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86. Stefan Boltzmann Law is applicable for Heat Transfer by :
     (A) Conduction   (B) Convection   (C) Radiation   (D) All of these

87. The power of a single phase AC circuit is given by :
     (A) VI   (B) VI cos ϕ (C) VI sin ϕ (D) None of these

88. Which one of the following has the dimensions of pressure ?
     (A) MLT^{-2} (B) $ML^{-1}T^{-2}$ (C) $ML^{-2}T^{-2}$ (D) $ML^{-1}T^{-1}$

89. In Boolean Algebra, $A+A+A+\cdots+A$ is the same as :
     (A) Zero   (B) A   (C) nA   (D) A^n

90. The measurement of the speed of a rotating shaft by means of an electric tachometer is a :
     (A) Direct Measurement   (B) Secondary Measurement
     (C) Tertiary Measurement   (D) All of these

91. The fatigue life of a part can be improved by :
     (A) Electroplating   (B) Polishing   (C) Coating   (D) Shot peening

92. The relationship between void ratio 'e' and porosity ratio 'n' for a given soil mass is :
     (A) $n = \dfrac{1+e}{1-e}$ (B) $e = \dfrac{1+n}{1-e}$ (C) $e = n(1+e)$ (D) $n = \dfrac{1-e}{e}$

93. The characteristic equation of Gases $PV = nRT$ holds good for :
     (A) Monoatomic Gases   (B) Diatomic Gases
     (C) Ideal Gases   (D) Real Gases

94. The perimeter of a square 'S' and perimeter of an equilateral triangle 'T' are equal. If the diagonal of this square 'S' is $12\sqrt{2}$ cm, then find the area of this equilateral triangle 'T'.
     (A) $48\sqrt{3}$ cm^2 (B) $64\sqrt{3}$ cm^2 (C) $24\sqrt{2}$ cm^2 (D) $24\sqrt{3}$ cm^2

95. A person travels 12 km in the North direction; then 15 km in the East direction; then 15 km in the West direction and then 18 km in the South direction. How far is he from the starting point ?
     (A) 6 km   (B) 12 km   (C) 33 km   (D) 60 km

96. Which one of the following contains Human body's thermostat ?
     (A) Pineal   (B) Pituitary   (C) Thyroid   (D) Hypothalamus

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97. The MOSFET switch in its on-state may be considered equivalent to :

(A) Resistor (B) Capacitor (C) Inductor (D) Battery

98. If t_o, t_m and t_p are the optimistic: most likely and pessimistic time estimates of an activity respectively; then the expected time 't' of the activity will be :

(A) $\dfrac{t_o + t_m + t_p}{3}$ (B) $\dfrac{t_o + 2t_m + t_p}{4}$ (C) $\dfrac{t_o + 3t_m + t_p}{5}$ (D) $\dfrac{t_o + 4t_m + t_p}{6}$

99. Which one of the following years was **not** a Leap year ?

(A) 1900 A.D. (B) 1904 A.D. (C) 2000 A.D. (D) 1888 A.D.

100. What does an electronic spreadsheet consist of ?

(A) Rows (B) Columns (C) Cells (D) All of the above

101. The sum of the squares of three consecutive odd numbers is 2531. Find these three odd numbers :

(A) 21, 23, 25 (B) 25, 27, 29 (C) 27, 29, 31 (D) 23, 25, 27

102. Who is the Winner of Pro Kabaddi Leage in 2014 ?

(A) U Mumba (B) Jaipur Pink Panthers
(C) Patna Pirates (D) Bengaluru Bulls

103. The present age of a father is 3 years more than three times the age of his son. After three years, father's age will be 10 years more than twice the age of the son. Find the present age of the Father.

(A) 30 years (B) 33 years (C) 36 years (D) 39 years

104. A train, 270 metres long, is running at the speed of 120 kmph. It crosses another train, which is running at the speed of 80 kmph in opposite direction on parallel track, in 9 seconds. What is the length of another train ?

(A) 230 metres (B) 100 metres (C) 250 metres (D) 330 metres

105. For an Ideal Gas, the change in Enthalpy (ΔH) for an elemental change in temperature (ΔT) is given by :

(where C_p = Heat capacity at Constant Pressure ; C_v = Heat capacity at Constant Volume)

(A) $C_v.\Delta T$ (B) $\dfrac{C_p}{C_v}.\Delta T$ (C) $\dfrac{C_v}{C_p}.\Delta T$ (D) $C_p.\Delta T$

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106. As per Census, 2011. What is the Sex Ratio (i.e. No. of Females per 1000 Males) of India ?
   (A) 914   (B) 923   (C) 940   (D) 956

107. A perfect gas at 27 °C is heated at constant pressure till its volume is doubled. The final temperature is :
   (A) 54°C   (B) 108°C   (C) 327°C   (D) 600°C

108. Who is the winner of Nobel Prize, 2014 in the field of Literature ?
   (A) Philip Roth   (B) Patrick Modiano
   (C) Haruki Murakami   (D) Ngugi Wa Thiong'o

109. Which extention is given to word document by default ?
   (A) DOC   (B) COM   (C) EXT   (D) None of these

110. Zener Diode is a :
   (A) Reverse biased diode   (B) Forward biased diode
   (C) Variable voltage source   (D) Constant current source

111. At present, who is the Chief Justice of India ? (As on 01.11.2014)
   (A) Justice H.L. Dattu   (B) Justice R.M. Lodha
   (C) Justice P. Sathashivam   (D) Justice A. Kabir

112. If the diameter of a wire is halved, its current carrying capacity will become :
   (A) One-fourth   (B) Half   (C) Twice   (D) Four Times

113. The refractive index of water is $\frac{4}{3}$. What is the speed of light in water ?
   (A) 2.25×10^8 m/sec   (B) 4×10^8 m/sec
   (C) 1.5×10^8 m/sec   (D) 2.67×10^8 m/sec

114. If the electron in hydrogen orbit jumps from third orbit to second orbit then the wavelength (λ) of the emitted radiation is given by : (where R = Rydberg constant)
   (A) $\lambda = \frac{R}{6}$ (B) $\lambda = \frac{R}{5}$ (C) $\lambda = \frac{36}{5R}$ (D) $\lambda = \frac{5R}{36}$

115. The minimum value of input which is necessary to cause a detectable change from zero output is called :
   (A) Least Count   (B) Resolution   (C) Drift   (D) Threshold

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116. A circle will appear, on an isometric drawing as a/an _____ .

    (A) Parabola   (B) Ellipse   (C) Circle   (D) Cycloid

117. Kunwar Singh, a prominent leader of Uprising of 1857, belonged to :

    (A) Punjab   (B) Rajasthan

    (C) Madhya Pradesh   (D) Bihar

118. Jitu Rai won Gold Medal in the recent Asian Games in the following field :

    (A) Archery   (B) Wrestling   (C) Boxing   (D) Shooting

119. Which one of the following blood group is considered Universal Donor ?

    (A) AB   (B) O   (C) A   (D) B

120. Shanti Swarup Bhatnagar Award is given for outstanding contribution in the following field :

    (A) Science   (B) Literature   (C) Economy   (D) Performing Arts

121. Atoms of the elements belonging to the same group of periodic table will have :

    (A) Same number of protons   (B) Same number of neutrons

    (C) Same number of electrons   (D) Same number of electrons in the valence shell

122. Which of the following is used as a moderator in nuclear reactors ?

    (A) Hard water   (B) Mineral water

    (C) Deionized water   (D) Heavy water

123. The number of chromosomes in a normal human body cell is :

    (A) 43   (B) 44   (C) 45   (D) 46

124. Identify the Country which was successful in putting a space craft into the Martian Orbit on its maiden attempt ?

    (A) Russia   (B) China   (C) India   (D) USA

125. Alka is older than Mala. Gopal is older than Mala but younger than Alka. Mala is older than Ram. Who is the eldest amongst them ?

    (A) Gopal   (B) Mala   (C) Alka   (D) Ram

126. Sardar Patel was born on October 31, 1875. His birth anniversary on October 31, this year was observed as :

(A) Rashtriya Ekta Diwas (National Unity Day)

(B) Anti-Corruption Day

(C) Anti Communal Day

(D) Swachh Bharat Day (Clean India Day)

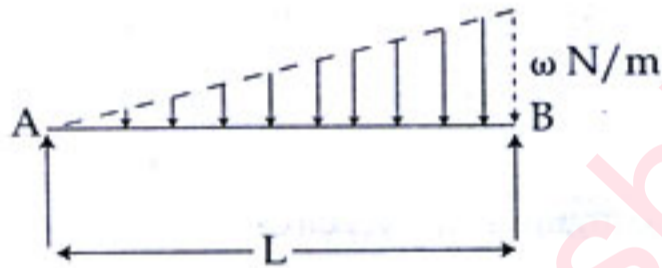127. Complete the following given series :

6, 12, 21, 33, 48, ____?____ . .

(A) 60   (B) 57   (C) 54   (D) 66

128. Who is the winner of Men's Singles Title in Wimbledon, 2014 in Tennis ?

(A) Roger Federer   (B) Rafael Nadal   (C) Marin Cilic   (D) Novak Djokovic

129. A simply supported beam carries a varying load from zero at one end to ω N/m at the other end (as under).

The length of the beam is L. The shear force will be zero at a distance 'x' from A. Find 'x' :

(A) $\dfrac{L}{2}$ (B) $\dfrac{L}{4}$ (C) $\dfrac{L}{\sqrt{3}}$ (D) $\dfrac{L}{3}$

130. A shopkeeper purchased 100 oranges for ₹ 350 and then sold these oranges at the rate of ₹ 48 per dozen. What is his percentage profit ?

(A) $12\dfrac{1}{2}\%$ (B) $14\dfrac{2}{7}\%$ (C) $10\dfrac{1}{2}\%$ (D) 15%

131. Where was the First Session of Indian National Congress held in 1885 A.D. ?

(A) Delhi   (B) Calcutta   (C) Bombay   (D) Surat

132. The main principle of surveying is to work from :

(A) Part to whole   (B) Whole to part

(C) Higher Level to Lower Level   (D) Lower Level to Higher Level

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133. Pipe 'P' can fill a tank in 10 hours and Pipe 'Q' can fill this tank in 12 hours. Pipe 'R' can empty the full tank in 20 hours. If all the three pipes are operated simultaneoulsy, then in how much time this tank will be filled ?

(A) 7 hours   (B) $7\frac{1}{2}$ hours   (C) 8 hours   (D) $8\frac{1}{2}$ hours

134. Find the work done when a force $\vec{F} = \left(\vec{i} + 2\vec{j} + 3\vec{k}\right)$ N acting on a particle takes it from

the point $\vec{r_1} = \left(\vec{i} + \vec{j} + \vec{k}\right)$ m to the point $\vec{r_2} = \left(\vec{i} - \vec{j} + 2\vec{k}\right)$ m.

(A) -3 J   (B) -1 J   (C) Zero   (D) 2 J

135. In a singly Reinforced Beam, if the permissible stress in concrete reaches earlier than the permissible stress in steel, the Beam section is called :
(A) Under Reinforced Section   (B) Economic Section
(C) Critical Section   (D) Over Reinforced Section

136. What are the advantages of DC transmission system over AC transmission system ?
(A) There is no skin effect in DC system
(B) Corona limits are highest for DC circuits as compared to AC circuits
(C) DC system is economical
(D) All of the above

137. x and y can complete a work in 18 days; y and z can complete this work in 24 days; x and z can complete this work in 36 days. In how many days will x, y and z complete this work, working together ?
(A) 26 days   (B) 13 days   (C) 16 days   (D) 8 days

138. An Amplifier has a power gain of 50. This gain in dB will be :
(A) log 50   (B) 10 log 50   (C) 100 log 50   (D) 50 log 50

139. Choose the statement which is correct :
(A) PERT is event oriented   (B) PERT is not event oriented
(C) CPM is event oriented   (D) CPM is not activity oriented

140. Which one of the following diseases is caused due to deficiency of protein ?
(A) Kwashiorkor   (B) Rickets   (C) Beri - Beri   (D) Scurvy

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141. If the volume of a Cube is 729 cm³, then the total surface area of this Cube will be :
   (A) 81 cm²   (B) 486 cm²   (C) 484 cm²   (D) 529 cm²

142. Jarawas and Shompens Tribal Groups live in :
   (A) Andaman and Nicobar Islands   (B) Chhattisgarh
   (C) Jharkhand   (D) Madhya Pradesh

143. The Headquarters of South East Central Railway is Located at :
   (A) Kolkata   (B) Nagpur   (C) Secunderabad   (D) Bilaspur

144. What was the overall voting percentage in the recently held General Elections for 16th Lok Sabha ?
   (A) About 60%   (B) About 55%   (C) About 66%   (D) About 78%

145. The value of the binary 11111 is :
   (A) $2^4 - 1$ (B) 2^4 (C) 2^5 (D) $2^5 - 1$

146. 36 men can complete a work in 18 days. In how many days will 27 men complete the same work ?
   (A) 24 days   (B) 12 days   (C) 30 days   (D) 42 days

147. Find the angle between the Hour hand the Minute hand of a clock when the time is 03 : 40 that is 40 minutes past 3 ?
   (A) 120°   (B) 125°   (C) 130°   (D) 135°

148. Which one of the following problems is **not** created by Noise Pollution ?
   (A) Diarrhoea   (B) Hypertension (C) Deafness   (D) Irritation

149. The bending of bimetallic strips during rise in temperature is due to difference in their :
   (A) Coefficient of linear expansion   (B) Thickness
   (C) Thermal conductivities   (D) Elastic properties

150. Find the value of $^{10}C_3$:
   (A) 720   (B) 240   (C) 120   (D) 1000

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