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THIS SHEET TO BE DETACHED/TORN OFF AND RETAINED BY INVIGILATOR ON COMPLETION OF EXAM / परीक्षा की पूर्ति पर इस पन्ने को अलग करके/काटके निरीक्षक द्वारा रखा जाए

Duration : (2 Hours / 120 Minutes) समय : (2 घंटे / 120 मिनट)	Exam Code : परीक्षा कोड : **TSG001**
No. of Pages / पृष्ठों की संख्या : **208**	Total Marks / कुल अंक : **150**
Roll No. : अनुक्रमांक:	Question Booklet No. : प्रश्न–पुस्तिका संख्या : **1057984**
Date of Examination : परीक्षा तिथि :	OMR Answer sheet No. OMR उत्तर शीट क्र.

Candidate's Name / परीक्षार्थी का नाम   Candidate's Signature / परीक्षार्थी का हस्ताक्षर

*** As given in application form / आवेदन पत्र में दिये गये अनुसार ***

CANDIDATE SHOULD OPEN THE SEALS ONLY AFTER THEY ARE ASKED TO DO SO.
परीक्षार्थी निर्देश मिलने पर ही सील खोलें।

The question paper is made up of the following sections as tabulated below :
निम्न तालिका में दर्शाये अनुसार, इस प्रश्न पत्र को निम्नलिखित भागों में विभाजित किया गया है :

Section/भाग	Language/भाषा	No. of Questions/प्रश्नों की संख्या	Pages/पृष्ठ From/से	Pages/पृष्ठ To/तक
Section - I	English	150	14	29
Section - II	Hindi/हिन्दी	150	30	46
Section - III	Urdu/اردو	150	47	64
Section - IV	Assamese/অসমীয়া	150	65	81
Section - V	Bengali/বাংলা	150	82	98
Section - VI	Manipuri/মণিপুরি	150	99	116
Section - VII	Odia/ଓଡ଼ିଆ	150	117	134
Section - VIII	Telugu/తెలుగు	150	135	153
Section - IX	Marathi/मराठी	150	154	171
Section - X	Gujarati/ગુજરાતી	150	172	188
Section - XI	Kannada/ಕನ್ನಡ	150	189	206

English Paragraph : "All the details given by me in the Application Form are true and complete to the best of my knowledge. I understand that I may be issued with Call letter for the exam on the basis of above information and mere issue of Call letter will not confer on me any right to be eligible for the post. I also understand that in case any of my statements are found to be untrue at any stage of recruitment or thereafter, I shall be disqualified forthwith for the post applied for and I shall be liable for any other penal action under the extant rules."

हिन्दी पैराग्राफ : ''आबेदन पत्र में मेरे द्वारा दिये गये सभी विवरण मेरी अधिकतम जानकारी के अनुसार सत्य और पूर्ण हैं। मैं समझता/समझती हूँ कि मुझे परीक्षा के लिए उपर्युक्त सूचना के आधार पर बुलावा पत्र जारी किया जाएगा और केवल बुलावा पत्र जारी करना पद के लिए पात्र होने का मुझे कोई अधिकार नहीं देता है। मैं यह भी समझता/समझती हूँ कि यदि मेरा विवरण भर्ती के किसी चरण पर या तत्पश्चात् असत्य पाया जाता है, तो मैं आवेदित पद के लिए तत्काल निरर्हक हो जाऊंगा/जाऊंगी और मुझ पर लागू नियमों के तहत कोई अन्य दंडात्मक कार्रवाई की जाएगी''।

Signature of the Invigilator / निरीक्षक के हस्ताक्षर   TSG001414

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.

TSG001414

SECTION - I

ENGLISH

1. 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

2. 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

3. 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

4. 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

5. 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

6. If $3x + 7 = x^2 + p = 7x + 5$, then the value of 'p' will be :

   (A) $\dfrac{1}{2}$ (B) $8\dfrac{1}{2}$ (C) $2\sqrt{2}$ (D) $8\dfrac{1}{4}$

7. 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

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

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

10. Earthworm belongs to following animal phyla ?
    (A) Porifera   (B) Annelida   (C) Mollusca   (D) Arthropoda

11. Sampling Theorem finds application in :
    (A) Amplitude Modulation   (B) Frequency Modulation
    (C) Pulse Code Modulation   (D) None of these

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

13. 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

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

15. 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

16. Which one of the following is renewable resource ?
    (A) Coal   (B) Petroleum   (C) Natural Gas   (D) Wind

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

18. 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

19. The United Nations Day (U.N. Day) is celebrated every year on :
    (A) Oct. 24   (B) Nov. 6   (C) Dec. 26   (D) March 1

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

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

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

22. Identify the cyclone which caused large scale destructions in Vishakhapatnam this year in October ?

   (A) Phailin   (B) Katrina   (C) Hudhud   (D) Nilofar

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

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

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

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

25. 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

26. 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

27. The Air-Fuel ratio of the Petrol Engine is controlled by :

   (A) Carburettor   (B) Injector   (C) Governor   (D) Fuel Pump

28. 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

29. 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

30. 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

TSG001414

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

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

32. Zener Diode is a :

(A) Reverse biased diode   (B) Forward biased diode

(C) Variable voltage source   (D) Constant current source

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

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

34. 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

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

(A) Punjab   (B) Rajasthan

(C) Madhya Pradesh   (D) Bihar

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

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

37. 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) $C_p . \Delta T$

38. 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

39. In Drawing, the surface roughness is represented by :

(A) Circles   (B) Squares   (C) Triangles   (D) Zig - Zag lines

40. 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

41. Filler Metal is used in :
    (A) Seam welding   (B) Spot welding
    (C) Projection welding   (D) Gas welding

42. Which one of the following blood group is considered Universal Donor ?
    (A) AB   (B) O   (C) A   (D) B

43. Which of the following cycles is used in thermal power plants ?
    (A) Rankine   (B) Carnot   (C) Otto   (D) Joule

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

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

45. 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

46. 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

47. 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

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

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

VL 19

50. Nature's cleaners are :

(A) Producers   (B) Consumers   (C) Decomposers   (D) Carnivores

51. 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

52. 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%

53. 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

54. The Headquarters of South East Central Railway is Located at :

(A) Kolkata   (B) Nagpur   (C) Secunderabad   (D) Bilaspur

55. Jarawas and Shompens Tribal Groups live in :

(A) Andaman and Nicobar Islands   (B) Chhattisgarh
(C) Jharkhand   (D) Madhya Pradesh

56. 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) $\lambda = \frac{5R}{36}$

57. 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

58. 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°

TSG001414

59. Find the value of :

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

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

60. 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

61. 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

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

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

64. Which of the following is an SI Engine ?
    (A) Diesel Engine   (B) Petrol Engine   (C) Gas Engine   (D) None of these

65. 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

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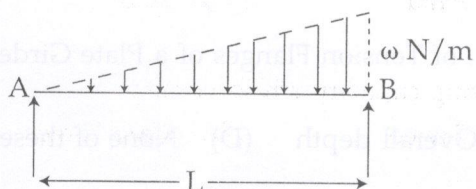
    (A) $\frac{16}{29} < \frac{7}{12} < \frac{5}{8} < \frac{3}{4} < \frac{13}{16}$

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

67. What does an electronic spreadsheet consist of ?
    (A) Rows   (B) Columns   (C) Cells   (D) All of the above

68. 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

69. 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

70. 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

71. Palitana Temples are located near :

    (A) Bhavnagar, Gujarat   (B) Ujjain, Madhya Pradesh
    (C) Nasik, Maharashtra   (D) Varanasi, Uttar Pradesh

72. Who is the Chairman of Rajya Sabha ? (As on 01.11.2014).

    (A) Sumitra Mahajan   (B) Hamid Ansari
    (C) Arun Jaitley   (D) Thambi Durai

73. 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

74. 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

75. 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

76. 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

77. 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

78. 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) $12\frac{1}{2}$ %   (B) $14\frac{2}{7}$ %   (C) $10\frac{1}{2}$ %   (D) 15%

79. 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

80. 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

81. Which one of the following diseases is caused due to deficiency of protein ?

    (A) Kwashiorkor   (B) Rickets   (C) Beri - Beri   (D) Scurvy

82. Microsoft Windows is a/an :

    (A) Word-processing program   (B) Database program
    (C) Operating system   (D) Graphics program

83. 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) $\frac{L}{2}$ (B) $\frac{L}{4}$ (C) $\frac{L}{\sqrt{3}}$ (D) $\frac{L}{3}$

84. 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

85. 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

86. 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

87. 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

88. 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

89. 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

90. _____ 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

91. 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

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

93. 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) $n = \dfrac{1 - e}{e}$

94. 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

95. A circle will appear, on an isometric drawing as a/an _____.
    (A) Parabola   (B) Ellipse   (C) Circle   (D) Cycloid

96. 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

97. 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

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

99. 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

100. 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

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

102. Find 63% of $3\frac{4}{7}$:
    (A) 2.25   (B) 2.40   (C) 2.50   (D) 2.75

103. 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

104. 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

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

106. 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

107. 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

108. 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

109. 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

110. In Sand Moulding, the top flask is known as :
     (A) Cope   (B) Drag   (C) Fillet   (D) Check

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

112. 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

113. 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

114. 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

115. 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) $\dfrac{1}{10x}$

116. Which of the following is used as a moderator in nuclear reactors ?
    (A)   Hard water   (B)   Mineral water
    (C)   Deionized water   (D)   Heavy water

117. 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

118. 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)

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

120. 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

121. 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

122. Who is the Winner of Pro Kabaddi Leage in 2014 ?
    (A)   U Mumba   (B)   Jaipur Pink Panthers
    (C)   Patna Pirates   (D)   Bengaluru Bulls

123. The MOSFET switch in its on-state may be considered equivalent to :
    (A)   Resistor   (B)   Capacitor   (C)   Inductor   (D)   Battery

124. Spot welding is an example of _____ welding.

(A) Gas   (B) Resistance

(C) Arc   (D) Tungsten Inert Gas

125. 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

126. 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

127. Complete the following given series :

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

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

128. 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.

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

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

130. Complete the following series :

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

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

131. A barometer measures :

(A) Absolute pressure   (B) Atmospheric pressure

(C) Gauge pressure   (D) Vacuum

132. 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

133. Which law of thermodynamics defines Entropy ?

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

134. Power Factor of the following circuit will be unity :
    (A) Inductance   (B) Resistance
    (C) Capacitance   (D) Inductance and Capacitance

135. Jitu Rai won Gold Medal in the recent Asian Games in the following field :
    (A) Archery   (B) Wrestling   (C) Boxing   (D) Shooting

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

137. 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) $\dfrac{t_o + 4t_m + t_p}{6}$

138. 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

139. Find the value of :
    (51 + 52 + 53 + 54 + ... + 100)
    (A) 3775   (B) 5050   (C) 1275   (D) 2525

140. 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

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

142. 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

143. 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

TSG001414

144. 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

145. 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

146. 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

147. 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

148. 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

149. 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

150. 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

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