

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 **Green Colour** 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. **10**.
- 5 The question paper comprises **150** questions and are available in congruent versions of English, Hindi, Urdu, Punjabi, Bengali and Odia 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.

SECTION - I : ENGLISH

There are 150 questions and all the questions are compulsory.

1. A fruitseller buys lemons at 2 for a rupee and sells them at 5 for 3 rupees. His gain percent is -
(A) 10% (B) 15%
(C) 20% (D) 25%
2. If $A : B : C = 2 : 3 : 4$, then $\frac{A}{B} \cdot \frac{B}{C} \cdot \frac{C}{A} = ?$
(A) 8 : 9 : 16 (B) 8 : 9 : 12
(C) 8 : 9 : 24 (D) 4 : 9 : 16
3. If 22.5 m of a uniform rod weighs 86.5 kg, what will be the weight of 6 m of the same rod ?
(A) 22.8 kg (B) 25.6 kg
(C) 26.5 kg (D) 28 kg
4. A person starting from his house covers a distance at 15 km/hr and returns to the starting place at 10 km/hr. His average speed during whole journey is -
(A) 11 km/hr (B) 12 km/hr
(C) $12\frac{1}{2}$ km/hr (D) 13 km/hr
5. A 120 m long train takes 10 seconds to cross a man standing on a platform. The speed of the train is -
(A) 10 m/sec (B) 12 m/sec
(C) 15 m/sec (D) 20 m/sec
6. A boat is rowed downstream at 15.5 km/hr and upstream at 8.5 km/hr. The speed of the stream is -
(A) 3.5 km/hr (B) 5.75 km/hr
(C) 6.5 km/hr (D) 7 km/hr

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- 7 The difference between compound interest and simple interest on Rs. 8,000/- at 5% p.a. for 3 years is -
(A) Rs. 50 (B) Rs. 60
(C) Rs. 61 (D) Rs. 600
- 8 The perimeter of a rectangle is 60 m. If its length is twice its breadth, then its area is -
(A) 160 m² (B) 180 m²
(C) 200 m² (D) 220 m²
- 9 The length of the longest pole that can be kept in a room 5 m long, 4 m broad and 3 m high is :
(A) $5\sqrt{2}$ m (B) $6\sqrt{2}$ m
(C) $7\sqrt{2}$ m (D) None of these
- 10 A clock is started at noon. By 10 minutes past 5 p.m., the hour hand has turned through :
(A) 145° (B) 150°
(C) 155° (D) 160°
- 11 If $3x - 5y = 5$ and $\frac{x}{x+y} = \frac{5}{7}$, then $(x-y) = ?$
(A) 3 (B) 4
(C) 6 (D) 9
- 12 The roots of the equation $x^2 - 8x + 15 = 0$ are :
(A) 2, 3 (B) 3, 5
(C) 8, 15 (D) 6, 5

$3 \frac{45}{60} = 3 \frac{3}{4}$
 $\frac{15 \times 3}{4}$



$5 \text{ hr } \frac{10}{60} = \frac{31}{6} \text{ hr}$

$12 \text{ hr } 30'$
 $1 - 30'$
 $\frac{31}{6} \times 30 = 5 \times \frac{31}{2}$
 $= 155$

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13 If a watch is sold at Rs. 60, there is a loss of 15%. For a profit of 2%, the watch is to be sold at -

- (A) Rs. 70
- (B) Rs. 72
- (C) Rs. 75
- (D) Rs. 85

14 $\frac{1}{0.04} = ?$

- (A) $\frac{1}{40}$
- (B) $\frac{2}{5}$
- (C) 2.5
- (D) 25

15 At what rate of simple interest a certain sum will be doubled in 15 years ?

- (A) $5\frac{1}{2}\%$ p.a.
- (B) 6% p.a.
- (C) $6\frac{2}{3}\%$ p.a.
- (D) $7\frac{1}{2}\%$ p.a.

16 A sum of money amounts to Rs. 9,680 in 2 years and Rs. 10,648 in 3 years. The rate of compound interest per annum is -

- (A) 5%
- (B) 10%
- (C) 15%
- (D) 20%

17 $\sqrt[3]{4\frac{12}{125}} = ?$

- (A) $1\frac{1}{5}$
- (B) $1\frac{2}{5}$
- (C) $2\frac{2}{5}$
- (D) $1\frac{4}{5}$

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18 Find the missing term in the following series :

1, 6, 15, ?, 45, 66, 91

(A) 25

(B) 26

(C) 27

(D) 28

19 Find the missing term in the following series :

1, 9, 25, 49, ?, 121

(A) 64

(B) 81

(C) 91

(D) 100

20 Find the missing term in the following series :

4, 7, 12, 19, 28, ?

(A) 30

(B) 36

(C) 39

(D) 49

21 Joule is related to Energy in the same way as Pascal is related to _____

(A) Volume

(B) Pressure

(C) Density

(D) Purity

22 Doctor is related to Patient in the same way as Lawyer is related to _____

(A) Court

(B) Accused

(C) Magistrate

(D) Client

23 If in a certain code LUTE is written as MUTE and FATE is written as GATE, then how will BLUE be written in that code ?

(A) CLUE

(B) GLUE

(C) FLUE

(D) SLUE

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24 If the word EARTH is written as QPMZS in coded form, how can HEART be written in the same code ?

- (A) SQPZM
- (B) SQMPZ
- (C) SPQZM
- (D) SQPMZ

25 Find the missing character :



- (A) 10
- (B) 15
- (C) 20
- (D) 25

26 Find the missing character :



- (A) 42
- (B) 46
- (C) 48
- (D) 50

27 Which of the following words will come second in the English dictionary ?

- (A) Magical
- (B) Magnify
- (C) Maternal
- (D) Magnetic

28 Which blood group can serve as "Universal Donor" ?

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

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- 29 For arc welding -
- (A) alternating current with high frequency is used
 - (B) alternating current with low frequency is used
 - (C) direct current is used
 - (D) Any one of these
- 30 In shielded arc welding -
- (A) large electrode is used
 - (B) welding rod coated with slag is used
 - (C) welding rod coated with fluxing material is used
 - (D) None of the above
- 31 The advantage of thermit welding is that -
- (A) all parts of the weld section are molten at the same time
 - (B) weld cools almost uniformly
 - (C) results in a minimum problem with internal residual stresses
 - (D) all of the above
- 32 Acetylene gas is stored in cylinders in -
- (A) solid form
 - (B) gaseous form
 - (C) liquid form
 - (D) Any one of these
- 33 The flow of electric current in a conductor is due to flow of -
- (A) electrons
 - (B) protons
 - (C) electrons and ions
 - (D) charged particles
- 34 The substance having a large number of free electrons and offering low resistance are called -
- (A) inductors
 - (B) conductors
 - (C) semiconductors
 - (D) insulators

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- 35 Which of the following does not use heating effect of electric current ?
(A) Electric Furnace (B) Geyser
(C) Electric Iron (D) Vacuum Cleaner
- 36 Filament lamp makes use of -
(A) chemical effect (B) heating effect
(C) magnetic effect (D) None of these
- 37 Static electricity is produced by -
(A) induction (B) friction
(C) chemical reaction (D) both induction and friction
- 38 The total excess or deficiency of electrons in a body is called the -
(A) current (B) voltage
(C) charge (D) potential gradient
- 39 A current is said to be direct current when its -
(A) magnitude remains constant with time
(B) magnitude changes with time
(C) direction changes with time
(D) magnitude and direction changes with time
- 40 A current is said to be alternating when it changes in -
(A) magnitude only (B) direction only
(C) both magnitude and direction (D) None of the above
- 41 The DC Generator works on the principle of -
(A) Fleming's Left hand rule (B) Fleming's Right hand rule
(C) Lenz's law (D) None of these

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- 42 EMF induced in each conductor of a DC machine is -
(A) an alternating emf (B) a direct emf
(C) a pulsating emf (D) emf of random wave shape
- 43 The basic function of a transformer is to change -
(A) the level of the voltage (B) the power level
(C) the power factor (D) the frequency
- 44 All electronic circuits contain five basic components -
(A) 1 active and 4 passive components
(B) 2 active and 3 passive components
(C) 3 active and 2 passive components
(D) 4 active and 1 passive components
- 45 Which one of the following is used as a passive component in an electronic circuit ?
(A) Vacuum diode (B) Zener diode
(C) Inductor (D) Silicon controlled rectifier
- 46 An example of solid state device is -
(A) zener diode (B) triode
(C) pentode (D) thyatron
- 47 The best vacuum tube for amplification is -
(A) pentode (B) tetrode
(C) triode (D) diode
- 48 The total energy of a revolving electron in an atom -
(A) cannot be calculated (B) can never be negative
(C) can never be positive (D) has any value above zero

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- 49 Which of the following materials is not a semi-conductor ?
- (A) Silica (B) Germanium
(C) Selenium (D) Gallium Arsenide
- 50 The most frequently used semiconductors in electronics and transistor manufacture are -
- (A) silicon and grey tin (B) selenium and tellurium
(C) germanium and selenium (D) silicon and germanium
- 51 In N-type semiconductor there are -
- (A) immobile positive ions (B) immobile negative ions
(C) no majority carriers (D) holes are majority carriers
- 52 Current flow in a semiconductor depends on the phenomenon of -
- (A) drift (B) diffusion
(C) recombination (D) all of the above
- 53 A Zener diode -
- (A) is useful as an amplifier
(B) has a -ve resistance
(C) has a sharp breakdown at low reverse voltage
(D) has a high forward voltage rating
- 54 The resultant of two forces P and Q acting at an angle θ is :
- (A) $\sqrt{P^2 + Q^2 + 2PQ \sin \theta}$ (B) $\sqrt{P^2 + Q^2 + 2PQ \cos \theta}$
(C) $\sqrt{P^2 + Q^2 - 2PQ \cos \theta}$ (D) $\sqrt{P^2 + Q^2 - 2PQ \tan \theta}$

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55. The centre of gravity of an equilateral triangle with side a is -
- (A) $\frac{\sqrt{3}a}{2}$ (B) $2\sqrt{3}a$
(C) $\frac{a}{2\sqrt{3}}$ (D) $3\sqrt{2}a$
56. The deformation per unit length is called -
- (A) tensile stress (B) compressive stress
(C) shear stress (D) strain
57. The unit of modulus of elasticity is same as those of -
- (A) stress, strain and pressure
(B) stress, force and modulus of rigidity
(C) strain, force and pressure
(D) stress, pressure and modulus of rigidity
58. The mercury does not wet the glass. This is due to the property of the liquid known as -
- (A) Cohesion (B) Adhesion
(C) Viscosity (D) Surface tension
59. A piezometer tube is used only for measuring -
- (A) low pressure (B) high pressure
(C) moderate pressure (D) vacuum pressure
60. A good building stone is one which does not absorb more than what percent of its weight of water after one day's immersion -
- (A) 5% (B) 10%
(C) 15% (D) 25%

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- 61 Who gave the slogan 'Jai Hind' ?
(A) M. K. Gandhi
(B) J. L. Nehru
(C) S. C. Bose
(D) B. G. Tilak
- 62 Consider the following nationalists -
(i) Bal Gangadhar Tilak
(ii) Gopal Krishna Gokhale
(iii) Bipin Chandra Pal
(iv) Lala Lajpat Rai
Who among these were referred to as militant nationalists of the Indian Freedom Movement ?
(A) (i), (ii) and (iii)
(B) (ii) and (iv)
(C) (i), (iii) and (iv)
(D) (i), (ii), (iii) and (iv)
- 63 Mangal Pandey fired the first shot of the Revolt of 1857 at -
(A) Barrackpore
(B) Meerut
(C) Kanpur
(D) Jhansi
- 64 The Arya Samaj was founded by -
(A) Swami Dayanand Saraswati
(B) Swami Vivekanand
(C) Keshav Chandra Sen
(D) Ishwar Chandra Vidhyasagar
- 65 In India, the Prime Minister remains in office so long as he enjoys the -
(A) support of armed forces
(B) confidence of Rajya Sabha
(C) confidence of Lok Sabha
(D) support of the people
- 66 Age of a candidate to contest Parliamentary Election should not be less than -
(A) 18 years
(B) 21 years
(C) 25 years
(D) 26 years

- 67 The Vice President is the ex-officio Chairman of the -
(A) Rajya Sabha (B) Lok Sabha
(C) Planning Commission (D) National Development Council
- 68 The Green Revolution in India was the outcome of efforts of who amongst the following ?
(A) M. S. Swaminathan (B) C. Rangrajan
(C) K. V. Kamath (D) Rakesh Mohan
- 69 Which one of the following pairs is not properly matched ?
- | Industry | Industrialist |
|--------------|--------------------|
| (A) Reliance | - Mukesh Ambani |
| (B) Wipro | - R. Krishnamurthy |
| (C) Airtel | - Bharti Mittal |
| (D) Nano Car | - Ratan Tata |
- 70 Dr. V. Kurien has distinguished himself in which of the following areas ?
(A) Poultry Farms (B) Economic Reforms
(C) Dairy Development (D) Atomic Energy
- 71 Prof. Amartya Sen has earned worldwide distinction in which of the following fields ?
(A) Economics (B) Geology
(C) Biochemistry (D) Astrophysics
- 72 Who is known as the 'Iron Man of India' ?
(A) Jawaharlal Nehru (B) B. G. Tilak
(C) Sardar Vallabhbhai Patel (D) Mahatma Gandhi
- 73 Hari Prasad Chaurasia is a renowned player of :
(A) Tabla (B) Sarod
(C) Flute (D) Shehnai

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- 74 With which of the following fields is M. F. Hussain associated ?
(A) Painting (B) Music
(C) Literature (D) Social Services
- 75 Who is known as the 'Grand Old Man of India' ?
(A) Dadabhai Naoroji (B) A. O. Hume
(C) Bal Gangadhar Tilak (D) Surendranath Banerjee
- 76 EVM stands for -
(A) Electric Vending Machine (B) Electronic Vending Machine
(C) Electronic Voting Machine (D) Electric Volt Meter
- 77 Who wrote the book "*Ram Charit Manas*" ?
(A) Tulsi Das (B) Kabir
(C) Ramdev (D) Valmiki
- 78 Rabindranath Tagore was awarded Nobel Prize for his literary work named -
(A) Geetanjali (B) Rajtarangini
(C) Chokher Bali (D) None of these
- 79 Who is the author of the book "Discovery of India" ?
(A) Mahatma Gandhi (B) S. C. Bose
(C) Jawaharlal Nehru (D) L. B. Shastri
- 80 Wankhede Stadium is situated in -
(A) Chandigarh (B) Chennai
(C) Mumbai (D) Bengaluru

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- 81 Sachin Tendulkar scored his 100th International Cricket Century in the One Day Match against which team ?
(A) Pakistan (B) England
(C) Zimbabwe (D) Bangladesh
- 82 Quit India Movement was launched in response to -
(A) Cabinet Mission Plan (B) Cripps Proposals
(C) Simon Commission Report (D) Wavell Plan
- 83 The Secretariat Building of which state is known as Writers Building ?
(A) Assam (B) West Bengal
(C) Maharashtra (D) Karnataka
- 84 Which Saint propounded 'Advaitvad' ?
(A) Shankaracharya (B) Ramanand
(C) Kabir (D) Chaitanya
- 85 The cause of tuberculosis disease is -
(A) Virus (B) Bacteria
(C) Fungi (D) Protozoa
- 86 The present age of a man is five times the age of his son. Five years ago, the age of the man was ten times the age of his son at that time. How old is the man at present ?
(A) 45 years (B) 48 years
(C) 49 years (D) 52 years
- 87 What largest number of four digits is exactly divisible by 88 ?
(A) 9768 (B) 9988
(C) 9944 (D) 8888

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88 $\frac{2592}{\sqrt{?}} = 324$

- (A) 144
- (C) 16

- (B) 64
- (D) 8

89 The average weight of A, B, C is 45 kg. If the average weight of A and B is 40 kg and that of B and C is 43 kg, then the weight of B is -

- (A) 17 kg
- (C) 26 kg

- (B) 20 kg
- (D) 31 kg

90 The sum of one-half, one-third and one-fourth of a number exceeds the number by 12. The number is -

- (A) 144
- (C) 90

- (B) 154
- (D) 174

91 $(36)^{\frac{1}{6}} = ?$

- (A) 1
- (C) $\sqrt{6}$

- (B) 6
- (D) $\sqrt[6]{6}$

92 What percent of $\frac{2}{7}$ is $\frac{1}{35}$?

- (A) 2.5%
- (C) 25%

- (B) 10%
- (D) 20%

93 One-third of 1206 is what percent of 134 ?

- (A) 3
- (C) 300

- (B) 30
- (D) None of these

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- 94 Excess of alumina in the clay -
- (A) makes the brick brittle and weak
 - (B) makes the brick crack and warp on drying
 - (C) changes colour of the brick from red to yellow
 - (D) improves impermeability of the brick
- 95 Soils are derived from -
- (A) igneous rocks
 - (B) sedimentary rocks
 - (C) metamorphic rocks
 - (D) Any one of these
- 96 The soil transported by running water is called -
- (A) Aeolian soil
 - (B) Marine soil
 - (C) Alluvial soil
 - (D) Lacustrine soil
- 97 In reinforced cement concrete structures, the steel reinforcement consists of-
- (A) deformed bars
 - (B) cold twisted bars
 - (C) mild steel and medium tensile steel bars
 - (D) All of these
- 98 In a single reinforced beam, the effective depth is measured from the compression edge to the -
- (A) tensile edge
 - (B) centre of tensile reinforcement
 - (C) neutral axis of beam
 - (D) None of these
- 99 The resources in a construction project are made up of -
- (A) plant equipment
 - (B) construction materials
 - (C) skilled and unskilled manpower
 - (D) All of the above

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100 Bar chart is suitable for -

- (A) large project
- (B) major work
- (C) minor work
- (D) All of these

101 The quality of a capacitor can be expressed in terms of its -

- (A) size
- (B) power dissipation
- (C) capacitance value
- (D) None of these

102 Sensitivity of an electrical instrument is independent of -

- (A) amplitude distortion
- (B) frequency response
- (C) hysteresis
- (D) all of the above

103 The type of instrument to be used for measuring DC Voltage is -

- (A) moving coil meter
- (B) dynamometer type meter
- (C) inductive type meter
- (D) rectifier type meter

104 Bolometer is used for measuring -

- (A) electrical signals
- (B) optical inputs
- (C) thermal radiations
- (D) None of these

105 Which of the following affect biodiversity ?

- (i) Environmental pollution
- (ii) Ocean acidification
- (iii) Climate change

Select the correct answer from the following :

- (A) (i) and (iii)
- (B) (ii) and (iii)
- (C) None of the above
- (D) All of the above

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106 Detection, measurement and monitoring of chemicals in the environment is done through -

- (A) Analytical chemistry
- (B) Medicinal chemistry
- (C) Combinatorial chemistry
- (D) Prebiotic chemistry

107 Which of the following are corrosive poisons ?

- (i) Sulphuric acid
- (ii) Phosgene
- (iii) Sodium hydroxide
- (iv) Ozone

Choose the correct option from the following :

- (A) (i) and (iii)
- (B) (ii) and (iv)
- (C) Only (ii)
- (D) All of the above

108 Burning of coal releases large amounts of -

- (i) Methane
- (ii) Nitrogen oxides
- (iii) Sulphur dioxide
- (iv) Carbon dioxide

Select the correct answer from the following :

- (A) (ii) and (iii)
- (B) (ii), (iii) and (iv)
- (C) (i) and (iv)
- (D) (i), (iii) and (iv)

109 The biosphere is the zone of earth where life is found. It includes parts of-

- (i) Hydrosphere
- (ii) Lithosphere
- (iii) Stratosphere
- (iv) Troposphere

Select the correct answer from the following :

- (A) (i) and (iv)
- (B) (ii), (iii) and (iv)
- (C) (i) and (iii)
- (D) (i), (ii) and (iv)

110 A collection of eight bits is called -

- (A) Byte
- (B) Word
- (C) Record
- (D) File

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- 111 The ascending order of a data hierarchy is -
(A) Bit - Bytes - Field - Record - File
(B) Bit - Bytes - Record - Field - File
(C) Bytes - Bit - Field - Record - File
(D) Bytes - Bit - Record - Field - File
- 112 CPU consists of -
(A) input, output and processing
(B) control unit, primary storage and secondary storage
(C) control unit, arithmetic-logic unit and primary storage
(D) None of the above
- 113 The binary equivalent of the Octal number 13.54 is -
(A) 1011.1011
(B) 1101.1110
(C) 1001.1110
(D) None of the above
- 114 A computer program that converts an entire program into machine language is called -
(A) Interpreter
(B) Simulator
(C) Compiler
(D) Commander
- 115 Data transfer rate in modems is measured in -
(A) Bits per minute
(B) Bits per second
(C) Bandwidth
(D) None of the above
- 116 The section of the CPU that selects, interprets and sees to the execution of program instructions is -
(A) Memory
(B) Register unit
(C) Control unit
(D) ALU
- 117 What is the name given to the process of initializing a microcomputer with its operating system ?
(A) Cold booting
(B) Booting
(C) Warm booting
(D) Boot recording

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118 The primary job of the operating system of a computer is to -
(A) command resources (B) manage resources
(C) provide utilities (D) be user friendly

119 Which of the following is not application software ?
(A) Word Processing (B) Spreadsheet
(C) UNIX (D) Desktop Publishing

120 Keyboard is an -
(A) Input device (B) Memory device
(C) Output device (D) None of the above

121 What among the following is not a drawing instrument ?
(A) Drawing board (B) T-Square
(C) Projector (D) Protractor

122 If 'a' and 'b' are half the length of major and minor axes of the ellipse, and 'x' and 'y' coordinates, which mathematical equation will describe an ellipse ?

(A) $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$

(B) $\frac{a^2}{b^2} + \frac{x^2}{y^2} = 1$

(C) $\frac{a^2}{x^2} + \frac{b^2}{y^2} = 1$

(D) $ax^2 + by^2 = 0$



123 Which of the following is not an element of Isometric Projection ?
(A) Pictorial Projection
(B) Only two dimensions of a solid can be shown
(C) Actual size of a solid can be measured
(D) Three dimensions of a solid are shown in one view

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124 Some Vitamin - deficiency disease pairs are given below :

- (i) Vitamin C - Night Blindness
- (ii) Vitamin B₁ - Beri-Beri
- (iii) Vitamin D - Rickets
- (iv) Vitamin A - Scurvy

Which of the above pair/s is/are matched correctly ?

- (A) (i) and (iv) only
- (B) (ii) only
- (C) (ii) and (iii) only
- (D) (ii) and (iv) only

125 Photosynthesis in green plants occurs during the day, while the respiration -

- (A) Only at night
- (B) Only when there is enough ATP
- (C) All the time
- (D) Only during day time

126 Each disease is caused by a causative agent. Some disease - causative agent pairs are given below :

- (i) AIDS - HTLV-III (HIV)
- (ii) Malaria - Plasmodium
- (iii) Sleeping Sickness - Leishmania donovani
- (iv) Kala-azar - Trypanosoma

Which of the above pair/s is/are matched correctly ?

- (A) (i) and (iii) only
- (B) (i) and (ii) only
- (C) (i), (iii) and (iv) only
- (D) (ii) and (iv) only

127 A disease is sometimes spread by a vector. Some diseases and their vector pairs are given below :

- (i) Malaria - Tsetse fly
- (ii) Sleeping sickness - Sand fly
- (iii) Kala-azar - Aedes mosquito
- (iv) Dengue fever - Female Anopheles mosquito

Which of the above pair/s is/are matched correctly ?

- (A) None of these
- (B) All the above
- (C) (i), (ii) and (iv) only
- (D) (ii), (iii) and (iv) only

- 128 Which properties of water contribute to the upward movement of water in a tree ?
- (i) Evaporation from leaves pulls water upward.
 - (ii) Cohesion due to hydrogen bonding helps to hold together the column of water within the cells.
 - (iii) Adhesion of the water to cell walls helps resist the downward pull of gravity.
 - (iv) The high surface tension of water makes to stretch or break the surface of the liquid.

Which of the above given statements are correct ?

- (A) (i), (ii) and (iv)
 - (B) (i) and (iv)
 - (C) None of the above
 - (D) (i), (ii) and (iii)
- 129 When a ship enters a sea from a river -
- (A) it rises a little.
 - (B) it sinks a little.
 - (C) it remains at the same level.
 - (D) it rises or sinks depending on the material it is made of.

130 Atmospheric pressure is measured with a -

- (A) Hydrometer
- (B) Barometer
- (C) Hygrometer
- (D) Altimeter

131 The best conductor of heat among liquids is -

- (A) Water
- (B) Mercury
- (C) Ether
- (D) Alcohol

132 Food is cooked faster in a pressure cooker because -

- (A) heat cannot escape from the cooker.
- (B) steam is hotter than the boiling water.
- (C) due to high pressure the boiling point of water is raised.
- (D) in the cooker water starts boiling at a lower temperature.

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- 133 A solar eclipse occurs when -
- (A) the moon comes between the sun and the earth.
 - (B) the earth comes between the sun and the moon.
 - (C) the sun comes between the earth and the moon.
 - (D) the sun, the moon and the earth are not in the same line.
- 134 The minimum length of a plane mirror in which a person can see himself full length should be -
- (A) equal to person's height
 - (B) slightly more than his height
 - (C) nearly half his height
 - (D) nearly one-fourth his height
- 135 An example of a chemical change is -
- (A) wool being knitted into a sweater
 - (B) salt being dissolved into water
 - (C) food being cooked
 - (D) water being boiled
- 136 The acid naturally present in our stomach is -
- (A) Citric acid
 - (B) Hydrochloric acid
 - (C) Oxalic acid
 - (D) Nitric acid
- 137 Fire extinguishers contain a solution of -
- (A) Sodium carbonate
 - (B) Sodium bicarbonate
 - (C) Sodium hydroxide
 - (D) Sodium chloride
- 138 The poorest conductor of heat among the metals is -
- (A) Copper
 - (B) Aluminium
 - (C) Iron
 - (D) Lead

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- 139 The metal which can be extracted from the bauxite ore is -
(A) Iron (B) Copper
(C) Aluminium (D) Lead
- 140 Stainless Steel contains iron metal mixed with -
(A) Chromium and Nickel (B) Zinc and Nickel
(C) Chromium and Zinc (D) Copper and Nickel
- 141 When a gas is heated at constant volume -
(A) its temperature will increase
(B) its pressure will increase
(C) both temperature and pressure will increase
(D) neither temperature nor pressure will increase
- 142 The amount of heat required to raise the temperature of the unit mass of gas through one degree at constant volume, is called -
(A) Specific heat at constant volume
(B) Specific heat at constant pressure
(C) Kilo Joule
(D) None of these
- 143 Energy can neither be created nor destroyed, but it can be transformed from one form to another. This statement is known as -
(A) Zeroth law of thermodynamics (B) First law of thermodynamics
(C) Second law of thermodynamics (D) Kinetic theory of gas
- 144 The heat and mechanical energies are mutually convertible. This statement was established by -
(A) Boyle (B) Charles
(C) Joule (D) None of these

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- 143 A definite area or a space where some thermodynamic process takes place is known as -
- (A) Thermodynamic system (B) Thermodynamic cycle
(C) Thermodynamic process (D) Thermodynamic law
- 146 The absolute zero temperature is taken as -
- (A) -273°C (B) 273°C
(C) 237°C (D) -237°C
- 147 Conduction is a process of heat transfer -
- (A) from one particle of the body to another without actual motion of the particles.
(B) from one particle of the body to another by the actual motion of the heated particles.
(C) from a hot body to a cold body, in a straight line, without affecting the intervening medium
(D) None of the above
- 148 The transfer of heat by molecular collision is smallest in -
- (A) solids (B) liquids
(C) gases (D) None of these
- 149 Which of the following methods can be used for manufacturing 2 metre long seamless metallic tubes ?
- (A) Drawing (B) Extrusion
(C) Rolling (D) Extrusion and Rolling
- 150 In die casting, machine allowance is -
- (A) small (B) large
(C) very large (D) not provided

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