Igniters
FOR TOMORROW

Test Booklet Code

P

IFT

This Booklet contains 8 Pages

Do not open this test Booklet until you are asked to do so.

Class : IX Moving	**Max Marks : 240**
Subject : Physics, Chemistry, Biology, Mathematics & General Aptitude	**Time : 2 Hrs**

Name of the Candidate (in Captials) : _____

Roll Number   In figures : _____

                In Words : _____

Centre of Examination (in Captials) : _____
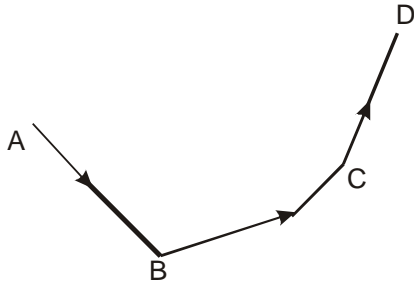
Candidate's Signature : _____

Invigilators's Signature : _____

Centre Superintendent

Q 1. A vehicle is moving in a circular path with uniform speed. Which of the following conclusion can be drawn from this?
(a) The velocity of the vehicle is uniform
(b) The vehicle is acclerating
(c) The vehicle is retarding
(d) Both (1)   and (2)

Q 2. The course of movement of an object is given below.

Which of the following represents the displacement of the object?

(a) $\overline{AB}$ (b) $\overline{AC}$

(c) $\overline{DA}$ (d) $\overline{AD}$

Q 3. When a force is applied on an object at rest on the ground,
(a) it always moves
(b) it may or may not move
(c) if it is not moving then there must be friction
(d) Both (2) and (3)

Q 4. Which of the following is an example of mechanical force?
(a) Muscular force
(b) Electric force
(c) Force used to kick a foot ball
(d) Both (1) and (2)

Q 5. A railway wagon of mass 1000 kg is pulled with a force of 10000 N. What is its acceleration?
(a) 10 m s^{-2} (b) 1 m s^{-2}

(c) 15 m s^{-1} (d) 1.5 m s^{-2}

Q 6. The trip of a screw driver is magnetised
(a) to avoid electric shock
(b) so that when the screw is removed it does not fall down
(c) to fix lightly with the screw
(d) to increase the strength of the screw driver

Q 7. Heat and temperature are
(a) forms of energy
(b) scales to measure the degree of hotness or coldness
(c) measurement scale and form of energy respec -tively
(d) form of energy and measurement scale respec -tively _____

Q 8. An ice cube is dropped into a glass of water kept at room temperature. Then
(a) heat flows from ice to water
(b) heat flows from water to ice
(c) temperature of water drops
(d) Both (2) and (3)

Q 9. The reasion for the absorption of heat energy by water at 100 $^{\circ}$C without raising its temperature is
(a) latent heat of fusion
(b) specific heat capacity
(c) latent heat of vaporization
(d) heat capacity

Q 10 The best substance to be used for making the handles of appliances like electric iron, pressure cooker etc among the following
(a) copper   (b) aluminium
(c) iron   (d) wood

Q 11. Oil is used for cooking because of its
(a) more specific heat capacity
(b) less specific heat capacity
(c) more latent heat
(d) less latent heat

Q 12. Nobel, Alfred Bernard discovered which of the following ?
(a) wireless   (b) dynamite
(c) semiconductor   (d) hydraulic machine

(Space For Rough Work)

CHEMISTRY

Q.13 The allotrope of carbon which is used in making dish antenna and tennis racket is
(a) diamond   (b) graphite
(c) charcoal   (d) gas carbon.

Q.14 In the fractional distillation of crude petroleum
(a) high boiling constituents condenses at the bot-tom of the column
(b) high boiling point constituents condenses at the top of the column
(c) petrol condenses at the bottom of the column
(d) All of the above.

Q.15 Hottest zone of the flame is
(a) luminous zone   (b) non-luminous zone
(c) yellow zone   (d) dark zone.

Q.16 Name the polymer that is used to make non stick cookwares.
(a) Polymers   (b) Teflon
(c) Rayons   (d) Nylon

Q.17 Which among the following is threat to the environ-ment ?
(a) Plastics   (b) Cotton
(c) Cellulose   (d) All of the above

Q.18 Handles of screw drivers aare made up of plastics,because
(a) plastics are good conductors of heat
(b) plastics are poor conductors of electricity
(c) plastics are good conductors of electricity
(d) plastics are light and have good mechanical strength.

Q.19 Polythene used for carry bags is a
(a) plastic   (b) leather
(c) jute   (d) acrylic

Q.20 When glass is subjected to heating,it cracks.Which of the following reason can be attributed to the above?
(a) Glass being good conductor of heat,under goes uneven expansion.
(b) Glass being a bad conductor of heat, under goes uneven expansion
(c) Uniform expansion of glass results in rearrange-ment leading to breakage.
(d) Glass being a bad conductor of heat, does not undergo expansion.

Q.21 The type glass used for the preservation of eggs is
(a) soda glass   (b) crown glass
(c) sandwich glass   (d) water glass

Q.22 Hottest zone of the flame is
(a) luminous zone   (b) non-luminous zone
(c) yellow zone   (d) dark zone

Q23 In an experiment 4.5 kg of a full was completely burnt. The heat produced was measured to be 180,000 kJ. Calorific value of the fuel.
(a) 40,000 kJ   (b) 4

Q.24 Full form of PCRA
(a) Physical Chemist Research Assosiation
(b) Physical Chemistry Research Analysis
(c) Pure Carbon Research & Analysis
(d) Petrolium Conservation Research Assosiation

BIOLOGY
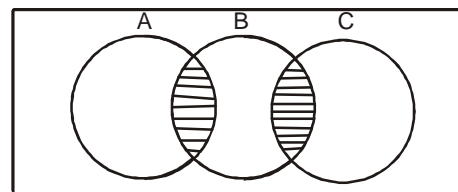
Q 25. Which one of the following types of cells lack nucleus in human?
(a) R.B.C   (b) W.B.C
(c) Liver cells   (d) Neutrophils

Q 26 A certain road accident patient with unknown blood group needs immediate blood transfusion His one doctor friend at once offers his blood . What was the blood group of the donor?
(a) Blood group B   (b) Blood group AB
(c) Blood group O   (d) Blood group A

Q.27 Force responsible for the ascent of sap is
(a) Capillary   (b) Root pressure
(c) Transpirational pull (d) All of the above

Q.28 Refer the given figures and select the correct op-tion.
(a) It is a type of parthenogenesis
(b) It is a type of asexual reproduction
(c) The affsprings can also be called as clones
(d) Both (b) and (c)

Q.29 _____is a life process that is not essential for an individual's survival but for survival of the species
(a) Growth   (b) Reproduction
(c) Respiration   (d) Nutrition

Q.30 The term' clone' cannot be applied to offspring formed by sexual reproduction because
(a) offspring do not possess exact copies of pa-rental DNA.
(b) DNA of only one parent is copies and passed on to the offspring

(Space For Rough Work)

(c) offspring are formed at different times

(d) DNA of parent and offspring are completely diffrent

Q.31 Asexual method of reproduction by binary fission is common to which of the following?

(i) Some eukaryotes

(ii) All eukaryotes

(iii) Some prokaryotes

(iv) All prokaryotes

(a) (i) and (ii)   (b) (ii) and (iii)

(c) (i) and (iii)   (d) (iii) and (iv)

Q.32 Internally, the uterus opens into:

(a) Urethra   (b) Vagina

(c) Oviduct   (d) Vulva

Q.33 The emergency hormone to face the danger or to fight is secreted by:

(a) Islets of Langerhans

(b) Adrenal cortex

(c) Pituitary

(d) Adrenal medulla

Q.34 Which one of the following is a degenerative disease?

(a) Thalassemia   (b) Beri-beri

(c) Cataract   (d) Diabetes

Q.35 Which one of the following vitamin deficiency diseases can be cured by eating a diet which includes carrot, yellow fruits, vegetables, butter, milk, fish?

(a) Beri-beri   (b) Dermatitis

(c) Nightblindness   (d) Scurvy

Q.36 Seeds of rice are first sown in the nursery and allowed to grow in to seedlings. Healthy seedings are then transferred to the main field. This is called:

(a) Winnowing   (b) Transplantation

(c) Threshing   (d) Broadcasting

MATHEMATICS

Q.37 If $\left(\dfrac{x}{y}\right)^{\frac{2}{5}}+\left(\dfrac{y}{x}\right)^{\frac{2}{5}}=2$, then $\left(\dfrac{x}{y}\right)^{4/5}+\left(\dfrac{y}{x}\right)^{4/5}=$

(a) 2   (b) 4

(c) $2^{2/5}$ (d) $2^{4/5}$

Q.38 If $x^y=y^z=z^x$ and $xyz=1$, then $xy+yz+zx=$

(a) 1   (b) 0

(c) -1   (d) 2

Q.39 If $\left(x+\dfrac{1}{x}\right)=5$, then find the value of $x^3+\dfrac{1}{x^3}$

(a) 125   (b) 105

(c) 110   (d) 100

Q.40 If one of the roots of $x^2-7x+k=0$ is 4, then find the value of k.

(a) 12   (b) -12

(c) 3   (d) -4

Q.41. Two taps of A and B are opened simultaneously. If tap A is stopped after half an hour when half of the tank is filled exactly, and the remaining half tank is filled in one hour by tap B, then find the total time to fill the tank by both the taps when opened simultaneously.

(a) 120 min   (b) 60 min

(c) 45 min   (d) 50 min

Q.42 A person saves 10 minutes in covering a certain distance by increasing his speed by 20%. What is the time taken by him to cover the distance at his usual speed? (in min)

(a) 60   (b) 50

(c) 40   (d) 70

Q.43 The population of the village grows at a rate of 10% per annum. What will be the population of the village after 2 years if its present population is 5000?

(a) 6555   (b) 6050

(c) 6505   (d) 6055

Q.44 If 1.25x is equal to 25% of 3, then x

(a) 0.6   (b) 0.8

(c) 0.9   (d) 1

Q.45 The mean of a certain data is 5. If each observation is multiplied by 5 and each product is increased by 5, then the mean of the resultant numbers is

(a) 5   (b) 25

(c) 10   (d) 30

Q.46 In a class of 30 students, 20 students like apples, 10 students like bananas and 7 students like both bananas and apples. Find how many students like neither apples nor bananas.

(a) 7   (b) 8

(c) 10   (d) 6

Q.47 The shaded region in the figure is represented by

(Space For Rough Work)

(a) $(A \cap B \cap C)$

(b) $(A \cap B) \cup (B \cap C)$

(c) $(A \cap B) \cap (B \cap C)$

(d) $(A \cup B \cup c)$

Q.48 The diagonals of a rhombus are 24 cm and 10 cm. Find the side of the rhombus (in cm)
(a) 24   (b) 48
(c) 56   (d) 64

Q.49 If the number of diagonals of a polygon is 44 then the number of sides of the polygon is
(a) 8   (b) 9
(c) 10   (d) 11

Q.50 The minimum number of acute angles in a triangle is
(a) 0   (b) 1
(c) 2   (d) 3

Q.51 Factorize : $x^2 + x + y - y^2$
(a) $(x^2 - y^2)(x + y)$ (b) $(x + y)^2(x - y)$
(c) $(x + y)(x - y +)$ (d) $(x + y)(x - y + 1)$

Q.52 The multiplicative inverse of $\dfrac{8}{5} \times \dfrac{25}{16}$ in the set of real numbers is

(a) $\dfrac{5}{2}$ (b) $\dfrac{3}{5}$

(c) $\dfrac{5}{3}$ (d) $\dfrac{2}{5}$

Q.53 In $\triangle ABC$, AB = BC and $\angle A = 2 \angle B$. Find $\angle C$.
(a) 36o   (b) 45o
(c) 72o   (d) 90o

Q.54 $\dfrac{7^{2x+3} + 7^{2x+1}}{7^{2x+2} + 7^{2x+1}} =$
(a) 8   (b) 7
(c) 6.25   (d) 5.75

Q.55 If x = y3 and x = 2197, then y + x =
(a) 2240   (c) 2230

(c) 2210   (d) 2220

Q.56 The HCF of $\dfrac{12}{15}, \dfrac{9}{5}, and \dfrac{4}{9}$ is

(a) $\dfrac{1}{90}$ (b) $\dfrac{1}{135}$

(c) $\dfrac{1}{45}$ (d) $\dfrac{1}{180}$.

GENERAL APTITUDE

Q.57 A car driver knows four diffrent routes from Delhi to Amritsar. From Amritsar to Pathankot, he knows three diffrent routes and from Pathankot to Jammu he knows two diffrent routes. How many routes does he know from Delhi to Jammu?
(a) 4   (b) 8
(c) 12   (d) 24
(e) 36

Q.58 In a chess tournament each of six players will play every other player exactly once. How many matches will be played during the tournament
(a) 36   (b) 30
(c) 15   (d) 12

Q.59. How many times in a day, the two hands of a clock coincide?
(a) 11   (b) 12
(c) 22   (d) 24

Q.60 You are walking down the street and suddenly you see two hundred rupee notes on the pavement. What action will you take?
(a) Pocket it yourself
(b) Leave it where it is
(c) Give it to a beggar
(d) Deposit it in the nearest police station

(Space For Rough Work)

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This Booklet contains 8 Pages

Do not open this test Booklet until you are asked to do so.

Important Instructions :

1. The Answer Sheet is inside this Test Booklet. When you are directed to open the Test Booklet, take out the Answer Sheet and fill in the particulars carefully with **blue/black** ball point pen only.

2. The test is of 2 hours duration and Test Booklet contains **60** questions. Each question carries **4** marks**.** For each correct response, the candidate will get **4** marks. For each incorrect response, **one mark** will be deducted from the total score. The maximum marks are **240**.

3. Use **Blue/Black Ball Point Pen only** for writing particulars on this page/marking responses.

4. Rough work is to be done on the space provided for this purpose in the Test Booklet only.

5. **On completion of the test, the candidate must handover the Answer Sheet & Test Booklet to the invigilator before leaving the Room/Hall.**

6. The CODE for this Booklet is **P**. Make sure that the CODE printed on the Answer Sheet is the same as that on this Booklet. In case of discrepancy, the candidate should immediately report the matter to the Invigilator for replacement of both the Test Booklet and the Answer Sheet.

7. The candidates should ensure that the Answer Sheet is not folded. Do not make any stray marks on the Answer Sheet. Do not write your roll no. anywhere else except in the specified space in the Test Booklet/Answer Sheet.

8. Use of white fluid for correcection is **NOT** permissible on the Answer Sheet.

9. Each candidate must show on demand his/her Admission Card to the Invigilator.

10. No candidate, without special permission of the Superintendent or Invigilator, would leave his/her seat.

11. The candidates should not leave the Examination Hall without handing over their Answer Sheet to the Invigiltor on duty and sign the Attendance Sheet twice. Cases where a candidate has not signed the Attendance Sheet second time will be deemed not to have handed over Answer Sheet and dealt with as an unfair means case.

12. Use of Electronic/Manual Calculator is prohibited.

13. The candidates are governed by all Rules and Regulations of the Board with regard to their conduct in the Examination Hall. All cases of unfair means will be dealt with as per Rules and Regulations of the Board.

14. No part of the Test Booklet and Answer Sheet shall be detached under any circumstances.

15. The candidates will write the correct Test Booklet Code as given in the Test Booklet/Answer Sheet in the Attendance Sheet.