



SET-A

QUANTUM POTENTIAL TEST

[Quality Nurturer & Mind Utilizer Test for Potential Enhancement]

(IPEC Scholarship-Cum-Admission Test)

For

CLASS-VII

(For VII to VIII Moving Students)

Time : 3 Hrs.]

[Maximum Marks : 270

Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.

INSTRUCTIONS

1. The booklet is your Question Paper. Do not break the seal of this booklet before being instructed to do so by the invigilator.
2. Blank spaces and blank pages are provided in the question paper for your rough work. No additional sheets will be provided for rough work.
3. Blank papers, clipboards, log tables, slide rules, calculators, cameras, cellular phones, pagers and electronic gadgets are **NOT** allowed inside the examination hall.
4. The answer sheet, a machine-readable Optical Response Sheet (**ORS**), is provided separately.
5. On breaking the seal of the booklet check that it contains **9** pages and all the **90** questions.
6. A candidate has to write his / her answers in the ORS sheet by darkening the appropriate bubble with the help of **Black ball point pen** as the correct answer of the question attempted.

7. Question Paper Format :

This question paper consists of **Five Parts**:

Part-I: IQ (Mental Ability) - 20 Questions.

Part-II: (Physics) - 20 Questions.

Part-III: (Chemistry) - 20 Questions.

Part-IV: (Mathematics) - 20 Questions.

Part-V: (Biology) - 10 Questions.

8. Marking Scheme :

All **Questions** carries **+3** marks for correct answer and **Zero** for wrong answer

FOR ANSWER KEY VISIT OUR WEBSITE- www.ipeciit.com

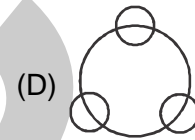
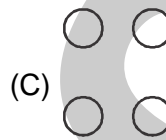
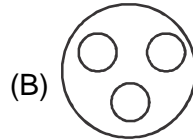
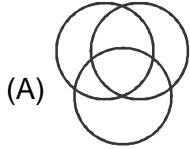
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PART - I [IQ]

[SINGLE CORRECTTYPE]

Each question has four choices (A), (B), (C) and (D) out of which only one is correct.

1. Correct Relation Between
Science, Maths, Physics, Chemistry



2. Crime : Punishment :: Honesty :: ?
(A) Prize (B) Proude (C) Book (D) Honour
3. 20 : 11 :: 102
(A) 52 (B) 49 (C) 61 (D) 51
4. Find Odd one
(A) Bombay (B) Delhi (C) Kolkatta (D) Chennai
5. According to dictionary correct sequence of following
(i) Necrology (ii) Necromancy (iii) Necropolis (iv) Necrophilia
(A) (i), (ii), (iii), (iv) (B) (i), (ii), (iv), (iii) (C) (ii), (i), (iii), (iv) (D) (ii), (i), (iv), (iii)
6. Find Odd one
(A) 5 - 35 (B) 4 - 44 (C) 6 - 64 (D) 3 - 30
7. According to dictionary arrangement which one is at last?
(A) Rhapsody (B) Revolve (C) Rheumatism (D) Reward
8. According to Dictionary arrangement which one is at last
(A) Hart (B) Heavy (C) Health (D) Heathen
9. Length : Meter :: Power : ?
(A) Kelvin (B) Watt (C) Degree (D) Kelogram
10. BCFG JKNO RSVW?
(A) HIKL (B) MNPQ (C) STUX (D) ZADE
11. 4, 5, 8,20
(A) 11 (B) 13 (C) 14 (D) 17

(Space for rough work)

12. CIM, HNR, MSW,
 (A) SXA (B) UYB (C) RXB (D) ZEH
13. If south is in the direction of East then, which direction will be in the direction of west
 (A) South (B) East (C) North (D) West
14. pbd, pq...d pqb.....
 (A) qbd (B) pbd (C) bdq (D) bdp
15. AB, EF, IJ?..... QR
 (A) OP (B) CD (C) MN (D) KL
16. A, C, F, J,, U
 (A) P (B) Q (C) K (D) O
17. X, V, S.....
 (A) R (B) O (C) Q (D) P
18. 5, 7, 11,, 25
 (A) 19 (B) 21 (C) 17 (D) 16
19. 6, 8, 11, 15
 (A) 21 (B) 19 (C) 18 (D) 20
20. 1, 4,, 16, 25
 (A) 9 (B) 13 (C) 7 (D) 12

PART -II [Physics]

[SINGLE CORRECTTYPE]

Each question has four choices (A), (B), (C) and (D) out of which only one is correct.

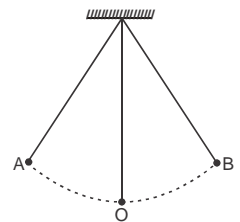
21. A car is in uniform motion going from town A to town B . At Some place in between A and B the speed of the car is 25 km/h. Then average speed of car moving from A to B is



- (A) 50 km/h (B) 25 km/h (C) $\frac{25}{t}$ km/h (D) 75 km/h

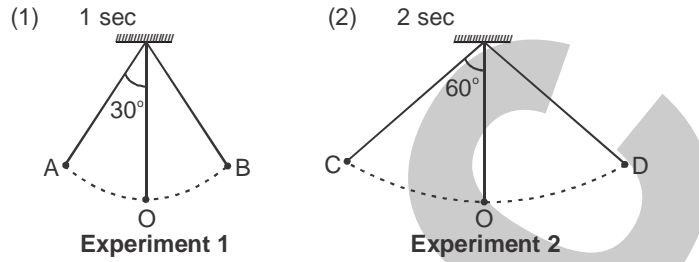
22. In the figure shown bob of the simple pendulum goes from A to B in 1 sec and get back to A in another 1 sec then time period of oscillation is

- (A) 1 second (B) 2 second
 (C) 4 second (D) 0.5 second

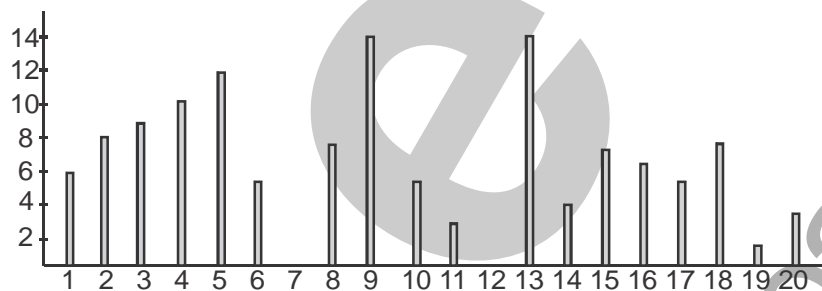


(Space for rough work)

23. In experiment 1 bob of the pendulum is taken to point A from mean position O and released so that it oscillates about mean position O. And in the second experiment the same pendulum is released from the position C. If time period in first case is 2 second then time period in second case will be

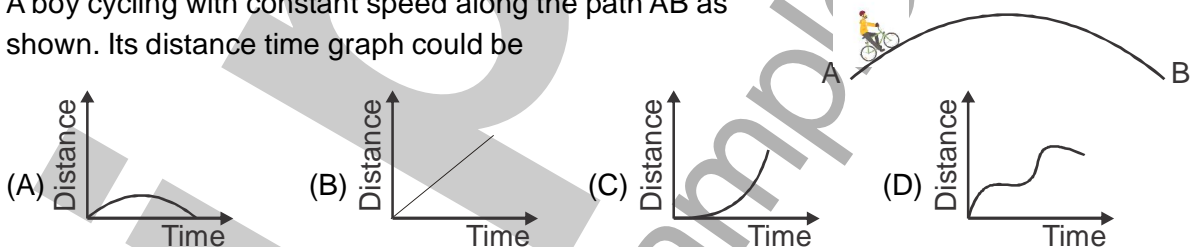


- (A) 1 sec (B) 2 sec (C) 4 sec (D) 0.5 sec
24. Following bar graph shows run scored by a team in 20-20 match



- If Ramesh bowled 2nd, 5th and 7th over. How much runs he gave during the match
 (A) 20 (B) 25 (C) 14 (D) 0

25. A boy cycling with constant speed along the path AB as shown. Its distance time graph could be



(Space for rough work)

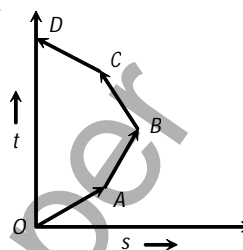
26. Distance time graph of a boy going to market is given. Distance covered by him between time interval 5 to 15 min is

- (A) 1000 m
(B) 300 m
(C) 1500 m
(D) 900 m



27. Which of the following options is correct for the object having a straight line motion represented by the following graph

- (A) The object moves with constantly increasing velocity from O to A and then it moves with constant velocity.
(B) Velocity of the object increases uniformly
(C) Average velocity is zero
(D) The graph shown is impossible



28. Let Q amount of Heat falls on an object. If Q_1 amount of heat is absorbed, Q_2 amount of heat is reflected and Q_3 amount of heat is transmitted by the object then

- (A) $Q = Q_1 + Q_2 + Q_3$ (B) $Q = Q_1$ (C) $Q = Q_1 - Q_2 - Q_3$ (D) $Q = Q_1 + Q_2$

29. A block of mass 1kg is heated such that its temperature becomes 80°C . Now it is broken into two smaller blocks of mass 750g and 250g. Temperature of each block will be



- (A) Block A = 80°C Block B = 40°C (B) Block A = 60°C Block B = 20°C
(C) Block A = 80°C Block B = 80°C (D) Block A = 40°C Block B = 40°C

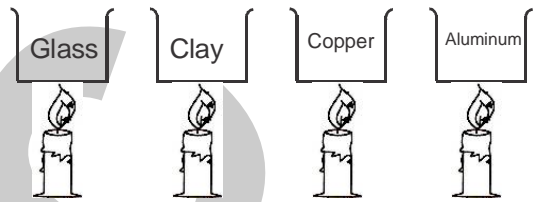
(Space for rough work)

30. A block of mass 1kg having temperature 80°C is broken into two smaller blocks A and B of mass 750g and 250g. When block A and is kept in contact with block B, heat flows from
- (A) from A to B (B) from B to A
- (C) First from A to B and then from B to A (D) Heat does not flow

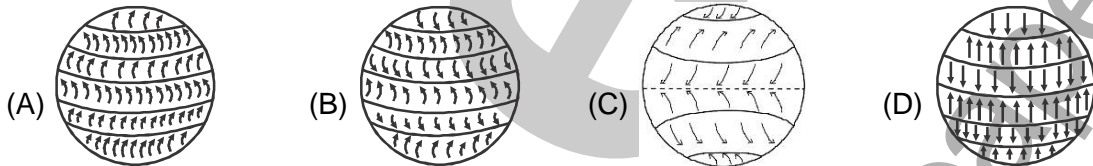


31. Four Pans (having same shape and size) containing equal amount of milk is put on identical stove for the same duration. Pans are made up of different materials in which pan milk will boil first.

- (A) Glass (B) Clay
(C) Copper (D) Aluminium



32. Water is boiled in a pan. Pan take heat from the stone and passes it to the water. The method by which heat flows from the pan to water is
- (A) Conduction (B) Convection
(C) Radiation (D) heat does not flow through pan
33. Choose the correct wind flow pattern because of uneven heating of earth if the rotation of earth is not taken into account?



34. Following photograh was clicked during day time on a popular beach in mumbai. The Girl is heading towards.

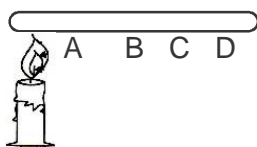
- (A) East (B) West
(C) North (D) South



35. What would be the best thing you will do if there is storm accompanied by lightning
- (A) Hide in a storage shed (B) Travel in a bus
(C) Took shelter under a tree (D) Walk with an umbrella
36. A car travels from A to B at a speed of 20 km / hr and returns at a speed of 30 km / hr . The average speed of the car for the whole journey is
- (A) 25km / hr (B) 24km / hr (C) 50km / hr (D) 5 km / hr

(Space for rough work)

37. In an experiment Amit, Mukesh, Deepak & Ravi was asked to measure temperature of metal rod at 4 distinct position which was kept on a stove they made the following observation.



Position	AMIT	MUKESH	DEEPAK	RAVI
A	75°	80°	80°	80°
B	70°	70°	75°	70°
C	65°	65°	70°	75°
D	60°	60°	65°	65°

Which student has certainly made the wrong observation

- (A) Mukesh (B) Deepak (C) Ravi (D) Amit
38. A car travels half the distance with constant velocity of 40 kmph and the remaining half with a constant velocity of 60 kmph. The average velocity of the car in kmph is
(A) 40 (B) 45 (C) 48 (D) 50
39. At what temperature the centigrade (Celsius) and Fahrenheit, readings are the same
(A) -40° (B) $+40^\circ$ (C) 36.6° (D) -37°
40. Two thermometers are used to record the temperature of a room. If the bulb of one is wrapped in wet hanky
(A) The temperature recorded by both will be same
(B) The temperature recorded by wet-bulb thermometer will be greater than that recorded by the other
(C) The temperature recorded by dry-bulb thermometer will be greater than that recorded by the other
(D) None of the above

PART -IV [Chemistry]

[SINGLE CORRECTTYPE]

Each question has four choices (A), (B), (C) and (D) out of which only one is correct.

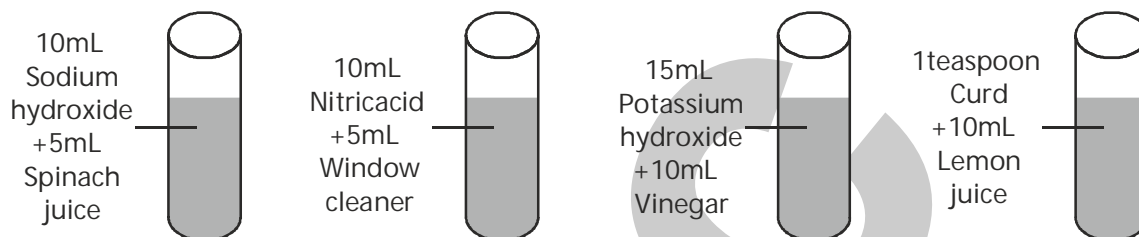
41. When added to acids, phenolphthalein
(A) changes to pink (B) changes to green
(C) remains colourless (D) changes to orange
42. When an acid and a base react, salt (X) and another product (Y) are formed. (Y) is
(A) an acid (B) a base (C) water (D) hydrogen

(Space for rough work)

43. Neutralisation is used in the treatment of
(A) tooth decay (B) indigestion (C) soil treatment (D) All of these
44. Which of the following is a mineral acid?
(A) Lactic acid (B) Formic acid (C) Tartaric acid (D) Nitric acid
45. Which of the following is not an inorganic acid?
(A) Hydrochloric acid (B) Nitric acid (C) Sulphuric acid (D) Acetic acid
46. Melting of wax is
(A) an irreversible physical change (B) an irreversible chemical change
(C) a reversible chemical change (D) a reversible physical change
47. Dissolve some common salt in water and leave the solution in an open and sunny place for a day. What do you observe?
(A) The whose of the solution evaporates (B) Water evaporates leaving behind salt
(C) Salt evaporates leaving behind water (D) No change of any form in the salt solution
48. Which of the following is a chemical change?
(A) Cutting of a cloth (B) Ironing of cloth (C) Drying of a cloth (D) Burning of cloth.
49. Copper sulphate solution is..... in colour.
(A) green (B) blue (C) pink (D) colourless
50. Which of the following gases burns with a pop sound?
(A) Hydrogen (B) Oxygen (C) Nitrogen (D) Carbon dioxide
51. **List - 1**
(i) Chemical change
(ii) Physical change
(iii) Crystallisation
(iv) Alloying
(A) (i)-(r); (ii)-(s); (iii)-(q); (iv)-(p)
(C) (i)-(p); (ii)-(r); (iii)-(q); (iv)-(s)
- List-2**
(p) Evolution of gas
(q) Pure solid
(r) Change in state
(s) Mixing of molten solids
(B) (i)-(q); (ii)-(r); (iii)-(p); (iv)-(s)
(D) (i)-(s); (ii)-(q); (iii)-(r); (iv)-(p)
52. **List - 1**
(i) Ant sting
(ii) Wasp sting
(iii) Antacid
(iv) Acidic soil
(A) (i)-(s); (ii)-(q); (iii)-(r); (iv)-(p)
(C) (i)-(r); (ii)-(p); (iii)-(q); (iv)-(s)
- List-2**
(p) Vinegar
(q) Milk of magnesia
(r) Calamine solution
(s) Slaked lime
(B) (i)-(p); (ii)-(r); (iii)-(s); (iv)-(q)
(D) (i)-(q); (ii)-(s); (iii)-(p); (iv)-(r)

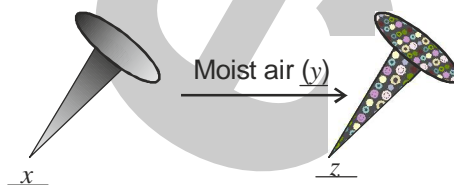
(Space for rough work)

53. Which of the following acids is present in sour milk?
 (A) Lactic acid (B) Formic acid (C) Acetic acid (D) Citric acid
54. A science teacher arranged the following sets of test tubes and added different indicators to the solutions.



She asked the students to find out the incorrect result from the following.

- (A) Test tubes 1 and 3 turn turmeric solution to red.
 (B) Test tubes 2 and 4 turn China rose indicator to green.
 (C) Methyl orange turns yellow in test tubes 1 and 3.
 (D) Phenolphthalein remains colourless in test tubes 2 and 4.
55. Fill in the blanks by observing the following chemical process.



The above process becomes faster when humidity is a and can be prevented by applying a coat of b, or by depositing a layer of a metal like c on iron.

x	y	z	a	b	c
(A) Mg	O ₂	MgO	low	water	copper
(B) Ca	CO ₂	CaCO ₃	high	oil	magnesium
(C) Fe	O ₂ & H ₂ O	Fe ₂ O ₃	high	grease	chromium
(D) Fe	H ₂ O & O ₂	FeO	low	paint	zinc

56. Reeling of Silk is
 (A) a process of making reels
 (B) spinning of Silk fibres
 (C) weaving of Silk cloth
 (D) the process of taking Silk threads from cocoon

(Space for rough work)

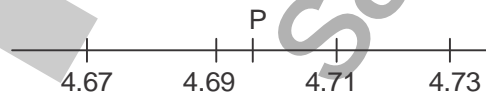
57. Silkworms secrete fibre made of
 (A) fat (B) cellulose (C) protein (D) nylon
58. The term sericulture is used for
 (A) Culture of bacteria (B) rearing of silkworm
 (C) making silk fabric from silk yarn (D) production of sarees.
59. The general process that takes place at a sheep sheering shed is
 (A) removal of fleece.
 (B) separating hair of different textures.
 (C) Washing of sheep fibre to remove grease.
 (D) rolling of sheep fibre into yarn.
60. Selective breeding is a process of
 (A) Selecting the offsprings with desired properties.
 (B) Selecting the parents with desired properties.
 (C) Selecting an area for breeding.
 (D) Selecting fine hair for good quality wool.

PART -IV [Mathematics]

[SINGLE CORRECTTYPE]

Each question has four choices (A), (B), (C) and (D) out of which only one is correct.

61. $24 + 55 = 55 + 24$ is an example of
 (A) Closure Property (B) Distributive property
 (C) Associative Property (D) Commutative property
62. If you watched TV for $\frac{7}{12}$ hour and your sister watched for $\frac{3}{4}$ hour, who watched longer ?
 (A) You (B) Your sister (C) Both same (D) cannot say
63. Given that 10cm is approximately equal to 4 inches, which of the following expressions models a way to find out approximately how many inches are equivalent to 350cm ?
 (A) $350 \times \frac{10}{4}$ (B) $350 \times \frac{4}{10}$ (C) $(10-1) \times 350$ (D) $(350-10) \times 4$
64. Observe a portion of the number line below .



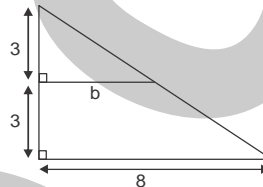
- If the point P is quarter away from 4.69 of the distance between 4.69 and 4.71, what point is P ?
 (A) 4.695 (B) 4.7 (C) 4.701 (D) 4.694

(Space for rough work)

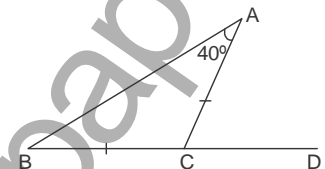
65. x exceeds 3 by 7 can be represented as
 (A) $x+3=7$ (B) $x+7=3$ (C) $x-3=7$ (D) $x-7=-3$
66. One fifth of a number added to itself gives 11 is represented by
 (A) $\frac{x}{5}+11=x$ (B) $x+\frac{11}{5}=\frac{x}{5}$ (C) $\frac{x}{5}+x=11$ (D) None of these

67. The sum of all the interior angles of the shape is
 (A) 540° (B) 720°
 (C) 1080° (D) 360°

68. What is the length of b ?
 (A) 3
 (B) 6
 (C) 4
 (D) 5



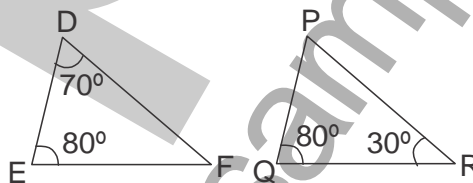
69. The sides of a triangle have lengths 10, 6.5 and a , where a is a whole number. The minimum value that a can take is
 (A) 6 (B) 5 (C) 3 (D) 4
70. In the figure $BC = CA$ and $\angle A = 40^\circ$, then $\angle ACD$ is equal to
 (A) 40° (B) 80°
 (C) 120° (D) 60°



71. Which one of the following triangle will have one of the altitudes outside the triangle ?

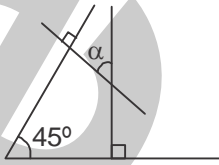


72. If $EF = QR$, then the congruence rule used for the congruency of the given triangles is



- (A) SAS (B) ASA (C) SSS (D) None

(Space for rough work)

73. On dividing 7 by $\frac{2}{5}$, the result is
(A) $\frac{14}{2}$ (B) $\frac{35}{4}$ (C) $\frac{14}{5}$ (D) $\frac{35}{2}$
74. If $\triangle ABC$ and $\triangle PQR$ are congruent under the correspondence $ABC \leftrightarrow RQP$, then the part of ABC that corresponds to RP is
(A) AC (B) BC (C) AB (D) None
75. $\left(\frac{3}{7}\right)^{th}$ of $\frac{2}{5}$ is
(A) $\frac{5}{35}$ (B) $\frac{6}{35}$ (C) $\frac{8}{35}$ (D) $\frac{1}{35}$
76. The solution of the equation $-6 + x = -12$ is
(A) 2 (B) 6 (C) -6 (D) -2
77. Angle α in the diagram is
(A) 45° (B) 30°
(C) $(180 - 45)^\circ$ (D) $\left(\frac{45}{2}\right)^\circ$
- 
78. Which of the following alphabets has no line of symmetry ?
(A) A (B) B (C) Q (D) M
79. Which measures of central tendency may get affected if the extreme observations on both the ends of a data, arranged in descending order are removed ?
(A) Mean and Mode (B) Mean and Median
(C) Mode and Median (D) Mean, Median & Mode
80. The range of the data : 21,6,17,18,12,8,4,13 is
(A) 17 (B) 12 (C) 8 (D) 15

(Space for rough work)

PART -V [Biology]

[SINGLE CORRECTTYPE]

Each question has four choices (A), (B), (C) and (D) out of which only one is correct.

-
81. Kind of nutrition in which organism feeds on dead & decaying matter is called
(A) Saprophyte (B) Epiphyte (C) Parasite (D) None
82. Name the Pigment essential for photosynthesis
(A) Fucoxanthin (B) Chlorophyll (C) Xanthophyll (D) Phycocyanin
83. Amoeba shown following kind of nutrition.
(A) Ectocarpic (B) Hetrozoic (C) Holocalpic (D) All
84. Amoeba captures food with the help of
(A) Cillia (B) Flagella (C) Tentacles (D) Pseudopodia
85. The largest gland in the human alimentary canal is
(A) Lungs (B) Pancreas (C) Liver (D) Adrenal
86. Name any plant parasite
(A) Bignonia (B) Cuscuta or Utricularia
(C) Amaranthus (D) Bochrarvia
87. Suggest any three activities in daily life which are eco-friendly.
(A) Climate, Water & Light (B) Light, temperature & Moisture
(C) Moisture, soil & air (D) Soil, air & water
88. What is the highest temperature that reaches Thar Desert in Summer
(A) 90°C (B) 70°C (C) Nearly 50°C (D) 110°C
89. What is the literal meaning of Monsoon
(A) Weather (B) Season (C) Temperature (D) Climate
90. In which form energy is generated in Respiration
(A) GNP (B) GDP (C) ADP (D) ATP
-

(Space for rough work)



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Time : 3 Hrs.]

(SAMPLE PAPER) ANSWER KEY

[Maximum Marks : 270

- | | | | | |
|---------|---------|---------|---------|---------|
| 1. (B) | 2. (A) | 3. (A) | 4. (B) | 5. (B) |
| 6. (C) | 7. (C) | 8. (B) | 9. (B) | 10. (D) |
| 11. (B) | 12. (C) | 13. (C) | 14. (A) | 15. (C) |
| 16. (D) | 17. (B) | 18. (C) | 19. (D) | 20. (A) |
| 21. (B) | 22. (B) | 23. (B) | 24. (A) | 25. (B) |
| 26. (A) | 27. (C) | 28. (A) | 29. (C) | 30. (D) |
| 31. (C) | 32. (A) | 33. (D) | 34. (A) | 35. (B) |
| 36. (B) | 37. (C) | 38. (C) | 39. (A) | 40. (C) |
| 41. (C) | 42. (C) | 43. (D) | 44. (D) | 45. (D) |
| 46. (D) | 47. (B) | 48. (D) | 49. (B) | 50. (A) |
| 51. (C) | 52. (C) | 53. (A) | 54. (B) | 55. (C) |
| 56. (D) | 57. (C) | 58. (B) | 59. (A) | 60. (B) |
| 61. (D) | 62. (B) | 63. (B) | 64. (A) | 65. (C) |
| 66. (C) | 67. (B) | 68. (C) | 69. (D) | 70. (B) |
| 71. (D) | 72. (D) | 73. (B) | 74. (A) | 75. (B) |
| 76. (C) | 77. (A) | 78. (C) | 79. (A) | 80. (A) |
| 81. (A) | 82. (B) | 83. (C) | 84. (D) | 85. (C) |
| 86. (B) | 87. (A) | 88. (C) | 89. (B) | 90. (D) |