

**ASPIRE****IIT & MEDICAL**

AN INITIATIVE BY IITIANS



BRAIN OF HIMACHAL

ASPIRE TALENT HUNT EXAM

FOR

CLASS 6th - QUESTION PAPERTime: 120 MinutesMaximum Marks: 400

INSTRUCTIONS:

PLEASE FILL DETAILS CAREFULLY

NAME _____

FATHER NAME _____

SCHOOL NAME _____

CONTACT NUMBER _____

Read the instructions carefully. 5 minutes are allowed specifically for this purpose.

1. Answer all questions
2. This booklet is your question paper containing **100** questions
3. The question paper consist of **5 sections** I, II, III, IV, V.
4. Section-I **Physics** (Questions -1 to 14), Section-II **Chemistry** (15-26), Section-III **Biology** (27-40), Section-IV **Mathematics** (40-60), Section-V **Mental ability** (60-100).
5. Each question has **only one correct** answer. Once you have marked an option you can't mark a fresh option
6. For each **correct** answer **+4** marks will be awarded. For **wrong** answer **-1** mark will be deduced.
7. Fill your **OMR** sheet carefully.
8. All the Notations used in this paper are standard.
9. No use of electronic gadgets, calculators, mobile phones etc are allowed.
10. **In case of any discrepancy do not ask anyone one including your invigilator. Try to attempt question and mark the best possible answer.**

Roll No.										
----------	--	--	--	--	--	--	--	--	--	--

ASPIRE IIT & MEDICAL SHIMLA / UNA Ph.: -93172-68600 ,98823-72779,93172-68603

Website : www.aspireiit.in | Email ID : aspirehimla01@gmail.com

Section-I (PHYSICS)

1. Which of the following statement best describes how the four planets closest to the Sun are different from the next four planets in our solar system ?

- (1) The four closest planets are denser.
- (2) The four closest planets have more moons.
- (3) The four closest planets have greater diameters.
- (4) The four closest planets take longer to complete one orbit.

2. Match the following.

Column A

- A. Translucent substance
- B. Opaque object
- C. Reflection
- D. Luminous object
- E. Eclipse

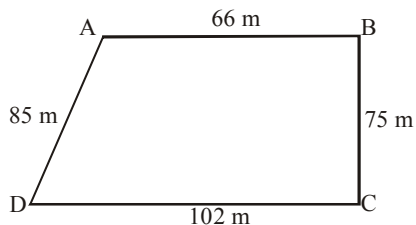
- (1) A-a, B-d, C-e, D-b, E-c
- (3) A-b, B-d, C-e, D-a, E-c

Column B

- (a) Give out its own light
- (b) Through which light can pass partially
- (c) Shadow cast by heavenly bodies
- (d) Bouncing back of light in same medium
- (e) Through which light can not pass

- (2) A-b, B-e, C-d, D-a, E-c
- (4) A-a, B-e, C-d, D-b, E-c

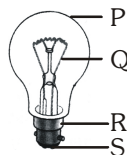
3. Rahul walks around a park every day. How much distance does he cover in 10 rounds ?



- (1) 3280 km
- (2) 3.280 km
- (3) 328 m
- (4) 32800 m

Rough work

4. A girl is 20 cm away from the plane mirror. If she moves few steps closer to the mirror,
(1) Size of the image will decrease (2) Size of the image will increase
(3) Size of image will be same (4) Cannot be determined
5. What happens during a full lunar eclipse?
(1) The Sun's shadow is cast on Earth.
(2) Earth's shadow is cast on the Moon.
(3) The Moon's shadow is cast on Earth.
(4) The Moon's shadow is cast on the Sun.
6. Which of the following objects does not have more than one type of motion ?
(1) Screw being inserted in window (2) Ball rolling on playground
(3) Scooter's wheel running on road (4) Seesaw motion in a park
7. Which part of the bulb is an insulator ?



- (1) P (2) Q (3) R (4) S
8. The unit of Energy is _____
(1) Watt per second (2) Pascal (3) Joule (4) Joule per second
9. An incident ray falls normally on a plane mirror then angle of incidence is
(1) 90° (2) 0° (3) 60° (4) 120°

Rough work

- 10. An eclipse occurs because**
(1) light travels in straight lines
(2) the earth revolves around the sun and the moon revolves around the earth
(3) The earth rotates on its axis
(4) The moon reflects sunlight
- 11. Energy possessed by a moving body is called Kinetic energy. The factors on which Kinetic energy of a body depends upon**
(1) Mass and weight
(2) speed and mass
(3) Speed and pressure
(4) speed and temperature
- 12. A quintal is a measure of**
(1) length
(2) mass
(3) time
(4) temperature
- 13. The phenomena of left appearing right and vice- versa is**
(1) Lateral inversion
(2) Silvering
(3) Refraction
(4) Reflection
- 14. Which of the following is a man-made source of light ?**
(1) Sun
(2) Meteor
(3) Tube-light
(4) Star

Rough work

Section-II (CHEMISTRY)

15. Which pair of substance float in water?
(a) Pin, oil drops (b) Coin, rubber band
(c) Plastic ball, feather (d) Iron nail, cotton thread
16. Which one is compressible?
(a) Cotton (b) Gold
(c) Marble (d) stone
17. Pick one material from the following which is completely soluble in water.
(a) Chalk powder (b) Tea leaves
(c) Glucose (d) Saw dust
18. The fruit of cotton plant are:
(a) Mulberry leaves (b) White flower
(c) Cotton balls (d) None of these
19. An iron nail is kept in each of the following liquids. In which case would it lose its shine and appear dull?
(a) Mustard oil (b) Soft drink
(c) Coconut oil (d) Kerosene
20. Four mixtures are given below
(i) Kidney beans and chick peas (ii) Pulses and rice
(iii) Rice flakes and corn (iv) Potato wafers and biscuits
Which of these can be separated by the method of winnowing?
(a) (i) and (ii) (b) (ii) and (iii) (c) (i) and (iii) (d) (iii) and (iv)

Rough work

21. Husk is separated from heavier seeds of grain
(a) Winnowing (b) Hand picking (c) sieving (d) None of the above
22. **STATEMENT A: A mixture of cement and pebbles can be separated by using the sieve with small pores**
STATEMENT B: A sieve with small pores will allow only small cement particles to pass through and will hold back the pebbles
(a) Statement A is true only (b) Statement B is true only
(c) Both are false (d) Both are true
23. **Weaving is done on devices called:**
(a) Takli (b) Charkha (c) Looms (d) Needles
24. **What is the process of 'Shearing' to obtain wool fibre?**
(a) The process of sharing things.
(b) The process of making woollen fabric from fibre.
(c) The process of removing hair from the body of animals.
(d) The process of removing seeds from cotton.
25. **Llama and Alpaca wool is obtained from?**
(a) Sheep (b) Angora (c) Yak (d) Camel
26. **You are provided with the following materials**
(i) Magnifying glass (ii) Mirror (iii) Stainless steel plate
(iv) Glass tumbler
Which of the above materials will you identify as transparent?
(a) (i) and (ii) (b) (i) and (iii)
(c) (i) and (iv) (d) (iii) and (iv)

Rough work

Section-III (BIOLOGY)

27. **The disease caused by the deficiency of iron is**
(a) Anaemia (b) Desentry (c) Chicken pox (d) Malaria
28. **Nutrients are**
(a) Component needed by the body (b) Component not needed by the body
(c) Components that play no role in the body
(d) None the above
29. **The Vitamin we get from fish is**
(a) Vitamin A (b) Vitamin B (c) VitaminC (d) Vitamin D
30. **Grind or mash a small part of the food item. Put some of this in a clean test tube, add 10 drops of water to it and shake the test tube . Now using a dropper , add two drops of solution of copper sulphate and ten drops of solution of caustic soda to the test tube . Shake well and let the test tube stand for a few minutes. A violet colour indicates presence of _____in the food item.**
(a) Starch (b) Protein (c) Fats (d)Minerals
31. **Which vitamin helps our body to use calcium for bones and teeth**
(a) Vitamin A (b) Vitamin B (c) VitaminC (d) Vitamin D
32. **Broad part of the leaf is called**
(a) Leaf base (b) Petiole (c) Leaf lamina (d) All of the above
33. **The main vein of the leaf is called**
(a) Vein (b) Veinlet (c) Mid rib (d) All of the above
34. **Raw material for photosynthesis are**
(i) Water (ii) Carbon dioxide (iii) Sunlight (iv) Chlorophyll
(a) (i) & (ii) (b) (ii)&(iii) (c) (i)&(iv) (d) All of the above

Rough work

35. Smaller roots around the main roots are called
- (a) Tap root (b) Fibrous root (c) Lateral roots (d) Adventitious roots
36. Which part of the pistil is called ovary
- (i) Lowermost part (ii) Swollen part (iii) Tube like part (iv) Receptive part
- (a) i & ii (b) i,ii,iii (c) i & iii (d) All of the above
37. Body part used by snake for the movement
- (a) Whole body (b) Tail (c) Head (d) None of the above
38. Which part of the body moves
- (a) Where bones meet (b) Where skin meets bones
- (c) Where muscles attach bones (d) All of the above
39. What is the location of pivotal joints ?
- (a) Knee (b) Head region (c) Vertebral column (d) Elbow
40. How many muscles work together for contraction?
- (a) 2, One contracts & one relaxes (b) 2, Both , contract
- (c) 1, It contracts (d) 1, it relaxes

Rough work

Section-IV (MATHEMATICS)

41. Find the smallest and the greatest numbers which are rounded off to the nearest ten as 900.
(a) Smallest number 850 , Greatest number 950
(b) Smallest number 850 , Greatest number 949
(c) Smallest number 849 , Greatest number 949
(d) None of the above
42. Write the correct expression of the following statement using brackets:
Eight multiplied by the difference of four from nine.
(a) $8 \times (9 - 4)$ (b) $9 - 4 \times 8$ (c) $8 \times 9 - 4$ (d) None of the above
43. Simplify : $(13 + 7) \times (9 - 4) - 18$
(a) 80 (b) 83 (c) 82 (d) 81
44. Write the roman – numeral for 48
(a) XIVIII (b) LXVIII (c) XLVIII (d) None of the above
45. To stitch a shirt 2m 15 cm cloth is needed. Out of 40 m cloth, how many shirts can be stitched ?
(a) 19 (b) 18 (c) 17 (d) 20
46. The predecessor of 1 in natural numbers is
(a) 0 (b) 2 (c) - 1 (d) None of these
47. The product of the predecessor and successor of an even natural number is
(a) divisible by 2 (b) divisible by 3
(c) divisible by 4 (d) an odd number
48. If x and y are co-primes, then their LCM is
(a) 1 (b) x/y (c) xy (d) None of these
49. The greatest number which divides 134 and 167 leaving 2 as remainder in each case is
(a) 14 (b) 19 (c) 33 (d) 17
50. Write the following in ascending order
4, - 5 , 16, - 11, - 21, 50
(a) -5, - 11, - 21, 4, 16, 50 (b) -5, -11, -21, 50, 16, 4
(c) -21, -11, -5, 50, 16, 4 (d) -21, -11, -5, 4, 16, 50

Rough work

51. $3 + (-5)$ is
(a) a natural number (b) a whole number
(c) an integer (d) all of the above
52. Find the value of $(-70) \times (10 - 5 - 22 - 83)$
(a) 7000 (b) 700 (c) 1700 (d) None
53. Cube of a negative integer is
(a) zero (b) Positive (c) Negative (d) None
54. A ratio is always expressed in its..... form.
(a) Complex (b) proportional (c) Simplest (d) All of these
55. The ratio of 1 cm to 1 mm is-
(a) 1 : 10 (b) 10 : 1 (c) 1 : 100 (d) 100 : 1
56. The LCM and HCF of two numbers are 180 and 6 respectively. If one of the number is 30, find the other number.
(a) 63 (b) 30 (c) 46 (d) 36
57. What is the smallest number which when divided by 24, 36 and 54 gives a remainder of 5 each time?
(a) 220 (b) 222 (c) 221 (d) 219
58. Find the largest number which divides 615 and 963 leaving remainder 6 in each case.
(a) 87 (b) 88 (c) 86 (d) 90
59. Two consecutive number cannot be
(a) an integer (b) a composite (c) a prime (d) None
60. Find the H.C.F and L.C.M of 1174 and 221:
(a) 11, 1989 (b) 13, 1989 (c) 13, 1987 (d) None

Rough work

Section-V (MENTAL ABILITY)

Directions: (Ques. No. 61-65) In each of the following questions, select the related word from the given alternatives.

61. **Touch : Feel :: Greet : ?**

- (a) Smile (b) Acknowledge (c) Success (d) Manners

62. **House : Room :: Word : ?**

- (a) Land (b) Sun (c) Air (d) Nation

63. **Smoke : Pollution :: War : ?**

- (a) Victory (b) Peace (c) Treaty (d) Destruction

64. **Ink : Pen :: Blood : ?**

- (a) Accident (b) Doctor (c) Vein (d) Donation

65. **Good : Bad :: Roof : ?**

- (a) Walls (b) Pillars (c) Floor (d) Window

Directions (Ques. No 66 – 70) Find the odd word pair from the given responses.

66. (a) Square (b) Circle (c) Rectangle (d) Triangle

67. (a) Glue (b) Oil (c) Paste (d) Cement

68. (a) Liver (b) Lungs (c) Kidney (d) Ear

69. (a) Reward : Punishment (b) Object : Permit

(c) Sharp : Blunt (d) Cold : Cool

70. (a) Aeroplane (b) Bird (c) Tanker (d) Parachute

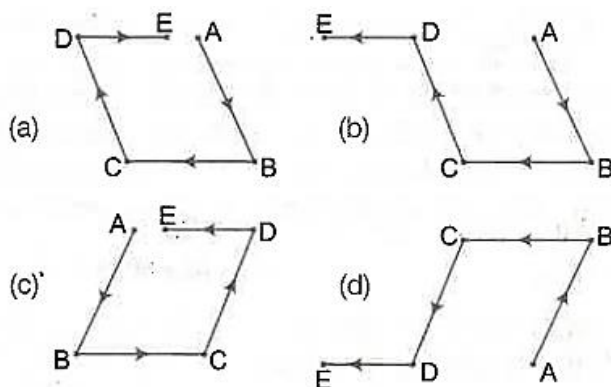
Directions: (Ques. No 71 – 72) Arrange the given words in an alphabetical order and choose the one that come first

71. (a) Opportunity (b) Opposite (c) Optics (d) Option

72. (a) Demand (b) Demon (c) Democracy (d) Demerit

Rough work

73. Arrange the given words in an alphabetical order and choose the one that comes in last.
 (a) Fluorescence (b) Florentine (c) Floriculture (d) Flop
74. Find one word which can not be made from the letters of the given word.
ADULTERATION
 (A) RELATION (B) RATIO (C) RETURN (D) TOILET
75. Arrange the given words in the sequence in which they occur in the dictionary and then choose the correct sequence
 (1) Handkerchief (2) Handsome (3) Handloom (4) Handglass
 (5) Handicraft
 (a) (1), (2), (4), (5), (3) (b) (5), (4), (3), (2), (1)
 (c) (4), (5), (1), (3), (2) (d) (5), (4), (1), (3), (2)
76. Mohan starts from point A and walks 1 km towards South, Turns left and walks 1 km. Then, he turns left again and walks 1 km. Now, he is facing which direction?
 (a) East (b) West (c) North (d) South
77. A man travels 4 km due North, then travels 6 km due East and further travels 4 km due North. How far he is from the starting point?
 (a) 6 km (b) 14 km (c) 8 km (d) 10 km
78. Ranjana starts from A and walks towards South-East to B. She turns West and walks to C. Then, she turns North-West and walks to D. Finally, she turns East and walks to E. Which of the answer figures exactly shows the path Ranjana traced?



Rough work

Directions (Ques. No. 79 – 80) Study the following information carefully to answer the question. A vehicle starts from point P and run 10 km towards North. It takes a right turn and runs 15 km. It now runs 6 km after taking a left turn. It finally takes a left turn, run 15 km and stops at point Q.

79. How far is point Q with respect to point P?
 (a) 16 km (b) 25 km (c) 4 km (d) 0 km
80. Towards which direction was the vehicle moving before it stopped at point Q?
 (a) North (b) East (c) South (d) West

Directions(Ques. No. 80 - 81) The number in each question below is to be codified in the following code.

Code digit	7	2	1	5	3	9	8	6	4
Letter digit	W	L	M	S	I	N	D	J	B

81. 184632
 (a) MDJBSL (b) MDJBIL (c) MDJBWL (d) MDBJIL
82. 879341
 (a) DWNIBS (b) DWNBIM (c) DWNIBM (d) NDWBIM

Directions (Ques. No 83 - 84) Choose the correct option for following coding problem

83. If Z = 52 and ACT = 48, then BAT will be equal to
 (a) 41 (b) 39 (c) 44 (d) 46
84. If E = 5 and PEN = 35, then PAGER is equal to
 (a) 47 (b) 39 (c) 58 (d) 67
85. If the word 'PENCIL' is coded as 'LICNEP', how the word 'INKPOT' should be coded?
 (a) TOPINK (b) JOLQPU (c) HMKOPS (D) TOPKNI

Directions (Ques. No. 86 – 87) In each of the following questions, various terms of letter series are given with one term missing. Choose the missing term out of the given alternative.

86. A, B, D, G, ?
 (a) J (b) K (c) L (d) M

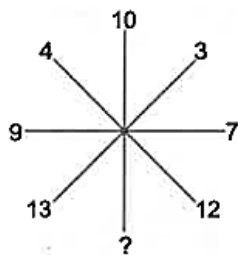
Rough work

87. CE, GI, KM, OQ, ?
 (a) ST (b) TP (c) SU (d) SQ
88. What should come in place of the question mark (?) in the following letter/number series with reference to the below given sequence?
 KBH, PGM, ULR, ?
 (a) ZQW (B) ZHW (C) Z82 (D) ZQ2

Direction (Ques. No 89 – 90) Complete the given series

89. 15, 51, 105, ...
 (a) 501 (b) 51 (c) 15 (d) 150
90. 25, 20, 15, 10, ...
 (a) 50 (b) 75 (c) 100 (d) 5

91. Insert the missing numerical value in following question.



- (a) 9 (b) 7 (c) 8 (d) 6
92. Insert the missing number.
- | | | |
|---|---|----|
| 1 | 1 | 1 |
| 2 | 4 | 16 |
| 3 | 9 | ? |
- (a) 81 (b) 18 (c) 27 (d) 17

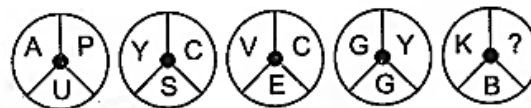
93. Insert the missing number.



- (a) 25 (b) 26 (c) 27 (d) 29

Rough work

94. Which letter replaces the question mark?



(a) L

(b) K

(c) J

(d) I

95. Insert the missing letter in following question.

A	F	K
C	H	M
F	K	?

(a) N

(b) O

(c) P

(d) Q

Direction (96-99) In the following questions, arrange the given words in a meaningful sequence and then choose the most appropriate sequence from the options given below in the each question.

96. (1) Village (2) State (3) World (4) Country
(5) District

(a) (1), (5), (3), (4), (2)

(b) (1), (5), (2), (4), (3)

(c) (1), (5), (3), (2), (4)

(d) (1), (2), (5), (4), (3)

97. (1) Post-box (2) Delivery (3) Letter (4) Envelope
(5) Clearance

(a) (4), (3), (1), (5), (2)

(b) (4), (1), (3), (2), (5)

(c) (4), (2), (3), (5), (1)

(d) (4), (3), (5), (2), (1)

98. (1) Child (2) Play-way (3) College (4) School
(5) Job

(a) (2), (1), (3), (4), (5)

(b) (1), (5), (3), (2), (4)

(c) (1), (2), (4), (5), (3)

(d) (1), (2), (4), (3), (5)

Rough work

99. (1) Morning (2) afternoon (3) Night (4) Evening
(5) Midnight

(a) (1), (2), (5), (4), (2)
(c) (1), (2), (4), (3), (5)

(b) (1), (2), (3), (4), (5)
(d) (1), (2), (4), (5), (3)

100. In the following question, arrange the given words in a meaningful sequence and then choose the most appropriate sequence from the options given below in the each question.

(1) Letter

(2) Word

(3) Paragraph

(4) Story

(5) Sentence

(a) (1), (2), (4), (5), (3)

(b) (1), (2), (5), (4), (3)

(c) (1), (2), (4), (5), (3)

(d) (1), (2), (5), (3), (4)

Rough work

Rough work



RESULTS PRIZE DISTRIBUTION DETAILS

ANSWER KEY
AVAILABLE

25-28
OCT.2023

RESULT DECLARATION
TOP 10

01
NOV.2023

PRIZE DISTRIBUTION
FUNCTION

05
NOV.2023

RESULT DECLARATION
OF ALL PARTICIPANTS

18
NOV.2023

Aspire is registered with Govt. Scholarship Program



मेधा प्रोत्साहन योजना



स्वर्ण जयंती
Super 100



ASPIRE
IIT & MEDICAL
AN INITIATIVE BY IIT'ANS

ASPIRE SHIMLA

94184-11117
98823-72779

ASPIRE UNA

93172-68601
93172-68603

ASPIRE HAMIRPUR

62302 31676
80913 13676