

SAMPLE PAPER



Aakash NATIONAL

TALENT HUNT EXAM

ANTHE — 2019 —

Class IX Studying Students



Aakash

Medical | IIT-JEE | Foundations

(Divisions of Aakash Educational Services Limited)

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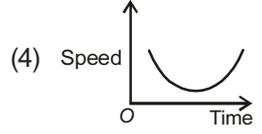
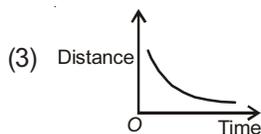
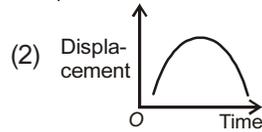
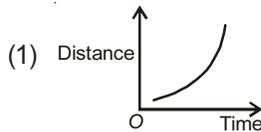
Aakash National Talent Hunt Exam 2019

(For IX Studying)

(The questions given in sample paper are indicative of the level and pattern of questions that will be asked in ANTHE-2019)

SECTION-A : SCIENCE

1. Which of the following graphs is not possible regarding motion of an object?



2. A stone is thrown vertically upward with a speed of 40 m/s. The time interval for which particle was above 40 m from the ground is ($g = 10 \text{ m/s}^2$)

(1) $4\sqrt{2} \text{ s}$

(2) 8 s

(3) 4 s

(4) $2\sqrt{2} \text{ s}$

3. When a fast moving carrom striker horizontally hits at the bottom of the pile, the bottom-most coin moves out quickly while other coins fall vertically down on the table. The reason behind falling of other coins on the table is

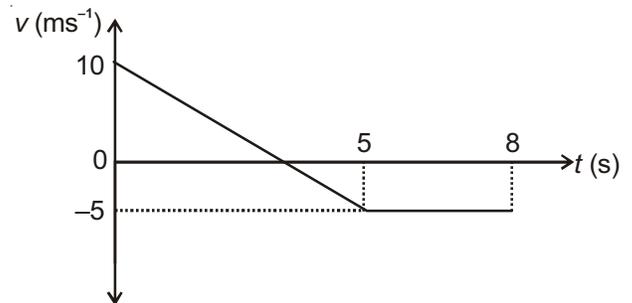
(1) Inertia of bottom-most coin

(2) Inertia of striker

(3) Inertia of table

(4) Inertia of falling coins apart from bottom-most coin

4. The velocity-time graph ($v-t$) of a car moving along a level road is shown below. The average speed of the car in the time interval 0 to 8 s is about



(1) 3.33 ms^{-1}

(2) 1.20 ms^{-1}

(3) 4.48 ms^{-1}

(4) 8.43 ms^{-1}

5. Which of the following statements is correct?

(1) The orbital time period of satellite moving around a planet is independent of its mass

(2) A planet's orbital speed always remains constant while moving around the sun

(3) The gravitational force is always repulsive in nature

(4) The gravitational force depends upon the medium in between the two objects

6. During separation of the components of air, the gas which separates out first in the form of solid, is

(1) Carbon dioxide

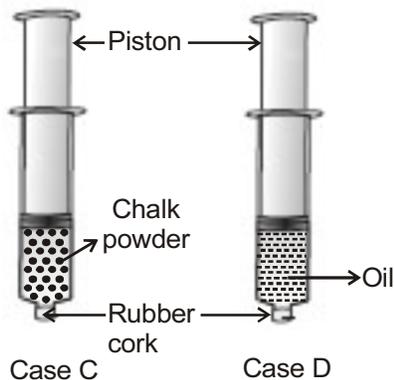
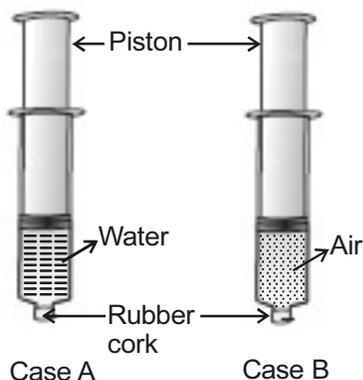
(2) Argon

(3) Oxygen

(4) Nitrogen

Space for Rough Work

7. Consider the following cases:



The case in which the piston can be pushed in very easily is

- (1) Case A (2) Case D
(3) Case B (4) Case C

8. Consider the given table:

Substance dissolved (in 250 g of water)	Solubility at 303 K	Solubility at 393 K
W	92	129
X	109	179
Y	68	79
Z	115	135

On decreasing the temperature from 393 K to 303 K, which of the given substances will separate out (or crystallises) in maximum amount?

- (1) Z
(2) Y
(3) X
(4) W

9. Which of the following conditions will increase the boiling point of water at constant temperature and pressure?

- (1) Increase in volume of water
(2) Decrease in volume of water
(3) Increase in surface area of container
(4) Addition of common salt

10. Which of the following statements is incorrect?

- (1) A gas exerts pressure on the walls of container
(2) Ice floats on water because density of solid is more than that of liquid
(3) Pressure and temperature determine the state of a substance
(4) The fifth state of matter is formed by supercooling a gas of extremely low density

11. An organism whose cell wall is made up of chitin belong to the group

- (1) Protista
(2) Monera
(3) Plantae
(4) Fungi

Space for Rough Work

12. Match the column-I with column-II and choose the correct option.

Column-I

- a. Blood
- b. Bone
- c. Cartilage
- d. Tendon

Column-II

- (i) It smoothens bone surfaces at joints
- (ii) It transports gases and hormones
- (iii) It has limited flexibility with great strength
- (iv) It is strong and non-flexible tissue

- (1) a(ii), b(iv), c(iii), d(i)
- (2) a(ii), b(iii), c(i), d(iv)
- (3) a(i), b(ii), c(iv), d(iii)
- (4) a(ii), b(iv), c(i), d(iii)

13. Which of the following combinations of tissues fundamentally enables most animals to move rapidly in response to stimuli?

- (1) Nervous tissue and muscular tissue
- (2) Adipose tissue and muscular tissue
- (3) Cuboidal epithelial tissue and connective tissue
- (4) Connective tissue and columnar epithelial tissue

14. **Statement I** : *Funaria* and fern have naked embryos that are called spores.

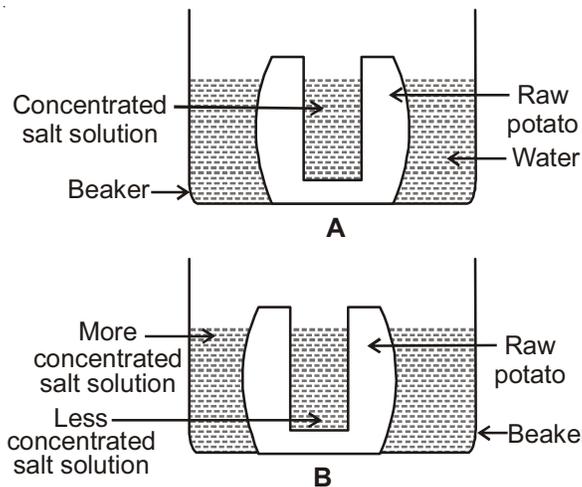
Statement II : Angiosperms are non-flowering plants.

Choose the correct option.

- (1) Statement I is true and statement II is false
- (2) Statement II is true and statement I is false

- (3) Both the statements are true
- (4) Both the statements are false

15.



Match the above given experimental set-ups A and B with their following probable outcomes and choose the correct option.

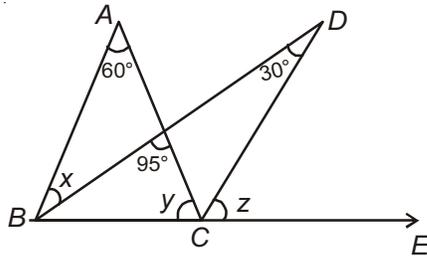
- (i) Water level in potato trough will remain the same.
- (ii) Water level in potato trough will increase due to the movement of water from beaker to potato trough.
- (iii) Water level in potato trough will decrease as water will move from potato trough to the beaker.

- (1) A(ii), B(i)
- (2) A(i), B(ii)
- (3) A(ii), B(iii)
- (4) A(i), B(iii)

Space for Rough Work

SECTION-B : MATHEMATICS

16. In the following figure, if ABC and BDC are two triangles, then $x + y + z$ equals

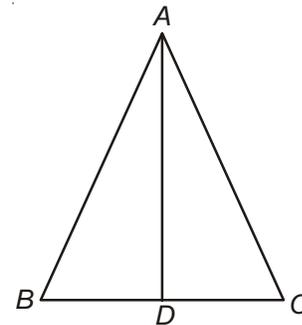


- (1) 120° (2) 150°
 (3) 180° (4) 135°
17. If a , b and c are positive integers, then $(a - b - c)^3 - a^3 + b^3 + c^3$ is always divisible by
- (1) Only $(a + b)$ (2) Only $(b + c)$
 (3) $3(a - b)$ (4) $3(a + b)(b + c)(a + c)$
18. If the graph of the linear equation $24x + 7y = 168$ cuts the x -axis and y -axis at A and B respectively, then length of AB is equal to
- (1) 25 units (2) 7 units
 (3) 24 units (4) 31 units

19. If $\frac{1}{2 + \sqrt{22} + \sqrt{26}} = \frac{1}{\sqrt{a} b^2} [\sqrt{a} + \sqrt{b} - \sqrt{(a+b)}]$, then values of a and b are respectively

- (1) $-\sqrt{11}, \sqrt{2}$ (2) $2, -11$
 (3) $11, 2$ (4) $\sqrt{2}, \sqrt{11}$

20. In the given triangle ABC , $AB > AC$ and AD is the bisector of $\angle BAC$, then which of the following option is correct?



- (1) $\angle DAC + \angle BCA < 90^\circ$
 (2) $\angle ADC > \angle ADB$
 (3) $\angle ABD + \angle BAD < 90^\circ$
 (4) $\angle BAD + \angle ABC = 90^\circ$

SECTION-C : MENTAL ABILITY

Directions (Q.21 & Q.22): In a certain code language 'RICH' is written as 'pKaJ' and 'MONEY' is written as 'kQIGw'.

Now on the basis of above information answer the following questions.

21. The code for 'AGENDA' is

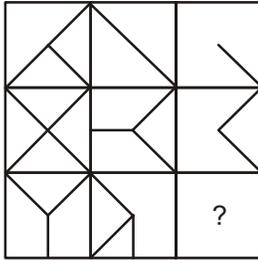
- (1) YiCpBc (2) ylcPbC
 (3) cEgLfY (4) CeGIFy

22. The code 'yNnU' stands for

- (1) ALSO
 (2) ALTO
 (3) ALPS
 (4) ALCO

Space for Rough Work

23. Choose the correct option in place of ?



- (1)  (2) 
- (3)  (4) 

24. Choose the odd figure out of the following options.

- (1)  (2) 
- (3)  (4) 

25. The next term of the following pattern is
356, 405, 436, 489, 524, ?

- (1) 571 (2) 581
(3) 591 (4) 600



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Note : Answer key of Sample Paper is available at
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Our Result in National Scholarship Exams / Olympiads

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2018

790 Classroom + 10 Distance

90 in RMO

2018

89 Classroom + 1 Distance

751 in NTSE

Stage-I 2018-19

715 Classroom + 36 Distance

188 in NTSE

Stage-II 2018

157 Classroom + 31 Distance

576 in NSEs

2018

548 Classroom + 28 Distance

481 in IMO

Level-I 2018-19

466 Classroom + 15 Distance

791 in NSO

Level-I 2018-19

776 Classroom + 15 Distance

585 in KVPY

Aptitude Test 2018

457 Classroom + 128 Distance



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ANSWERS

Class IX Studying

- | | | |
|--------|---------|---------|
| 1. (3) | 9. (4) | 17. (3) |
| 2. (1) | 10. (2) | 18. (1) |
| 3. (4) | 11. (4) | 19. (3) |
| 4. (3) | 12. (4) | 20. (3) |
| 5. (1) | 13. (1) | 21. (2) |
| 6. (1) | 14. (1) | 22. (3) |
| 7. (3) | 15. (3) | 23. (2) |
| 8. (3) | 16. (2) | 24. (1) |
| | | 25. (2) |