



20th NTST/CTSE

NATIONAL TALENT SEARCH TEST (1st to 10th classes)

COMMERCE TALENT SEARCH EXAM (11th & 12th Commerce)

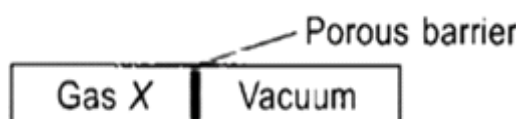
(Sample Paper Class-9th)

Science



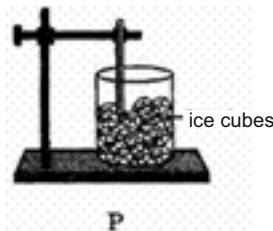
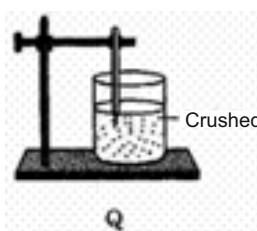
Commerce Talent
Search Exam

1. The given apparatus is used to study the diffusion of a number of gases at the same temperature and pressure.



Which of the following pairs of gases would diffuse into the vacuum at the same speed?
[Given : Atomic mass of H = 1 u, C = 12 u, N = 14 u, S = 32 u, O = 16 u]

- (a) NH_3 and N_2 (b) NH_3 and H_2
(c) CO and SO_2 (d) CO and N_2
2. Which experiments set -up is correct for determining the melting pt. of ice?



- (a) Both P and Q (b) Q
(c) P (d) Neither P nor Q
3. Match the following with the correct response:

(1) PCl_5	(A) Dinitrogen tetraoxide
(2) N_2O_5	(B) Phosphorous pentachloride
(3) N_2O_4	(C) Carbon tetrachloride
(4) CCl_4	(D) Dinitrogen pentaoxide

- (a) 1 - C, 2 - B, 3 - D, 4 - A (b) 1 - D, 2 - A, 3 - C, 4 - B
(c) 1 - A, 2 - C, 3 - B, 4 - D (d) 1 - B, 2 - D, 3 - A, 4 - C

4. Four strips are cut from a fresh potato. The length of each strip is measured. One strip is placed in water and others in different concentrations of sugar solution. After an hour, the strips were measured again. The results are shown in the table. Which of the liquids P, Q, R and S is water?

- (a) Q
(b) S
(c) P
(d) R

Liquid	Original length of strip (mm)	Final length of strip (mm)
P	75	75
Q	78	80
R	82	80
S	86	85

5. Which of the following is not a content of a vaccine?

- (a) Dead pathogens
(b) Living, weakened microorganisms
(c) Toxoids
(d) Antibiotics

6. Consider the number of protons and neutrons in the following elements.

Element 1: 7 protons, 8 neutrons

Element 2: 8 protons, 7 neutrons

Element 3: 7 protons, 9 neutrons

What can you conclude about this information?

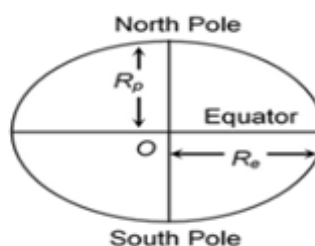
- (a) Elements 1 and 2 are isobars.
(b) Elements 1 and 2 are isotones.
(c) Elements 1 and 3 are isotopes.
(d) Elements 1, 2, and 3 are isobars.

7. In a laboratory experiment, students investigate the impact of different concentrations of salt solution on the length of potato strips. Which of the following results would support the hypothesis that higher salt concentrations cause water to leave the cells?

- (a) Potato strips in lower salt concentrations are longer.
(b) Potato strips in higher salt concentrations are shorter.
(c) Potato strips in all salt concentrations have the same length.
(d) Potato strips in higher salt concentrations are more rigid.

8. Which of the following statement is true about the given diagram

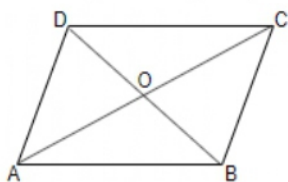
- (a) value of g is maximum at north pole
(b) value of g is minimum at south pole
(c) value of g is maximum at both poles
(d) value of g is maximum at equator



9. The volume of 40 g of a substance is 25 cm^3 . If the density of water is 2.67 g/cm^3 , the substance will
- (a) float (b) sink
- (c) suspend (d) can't say clearly
10. A bus without passengers weighing 1500 kg has a maximum acceleration of 0.3 m/s^2 . What is the maximum acceleration when it is carrying 25 passengers each of 60kg?
- (a) 0.005 m/s^2 (b) 0.025 m/s^2
- (c) 0.015 m/s^2 (d) 0.001 m/s^2

1. Which of the following is an irrational number
 (a) 0.01516 (b) 0.5015001500015.....
 (c) $0.\overline{1516}$ (d) 0.15
2. The value of x in $3 + 2^x = (64)^{\frac{1}{2}} + (27)^{\frac{1}{3}}$ is
 (a) 14 (b) 8
 (c) 5 (d) 3
3. If $x = (7 + 4\sqrt{3})$ then $(x + \frac{1}{x}) = ?$
 (a) 14 (b) 48
 (c) $8\sqrt{3}$ (d) 49
4. One of the zeroes of the polynomial $2x^2 + 7x - 4$ is
 (a) -2 (b) $\frac{1}{2}$
 (c) $-\frac{1}{2}$ (d) 2
5. The coordinates of a point A on y - axis, at a distance of 4 units from x - axis and below it, are
 (a) (4, 0) (b) (-4, 0)
 (c) (0, -4) (d) (0, 4)
6. The line represented by the equation $x + y = 16$ passes through (2, 14). How many more lines pass through the point (2, 14)
 (a) 10 (b) 2
 (c) 100 (d) many
7. Newton's first law is based in part on the work of
 (a) Dalton (b) Davy
 (c) Galillo (d) Joule
8. A histogram is a pictorial representation of the grouped data in which class intervals and frequency are respectively taken along
 (a) horizontal axis only (b) horizontal axis and vertical axis
 (c) vertical axis and horizontal axis (d) vertical axis only

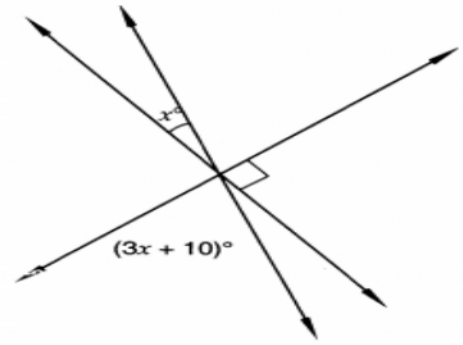
9. In the given figure, ABCD is a Rhombus. Then,



- (a) $AC^2 + BD^2 = 3AB^2$ (b) $AC^2 + BD^2 = 4AB^2$
 (c) $AC^2 + BD^2 = AB^2$ (d) $AC^2 + BD^2 = 2AB^2$

10. In Fig., the value of x , is

- (a) 8°
- (b) 20°
- (c) 15°
- (d) 12°



English

1 Fill in the blanks with most appropriate words.

Roger looked at me and without _____ word, gave him _____ ten dollar note.

- (A) a/a
- (B) no article/the
- (C) no article/ no article
- (D) the/no article

2 Choose the correct option.

It is a great store because it remains open twenty-four seven.

- (A) throughout the day
- (B) throughout the night
- (C) throughout the day and night
- (D) None of these

3 Adverb of _____ answer the question "when"

- (A) frequency
- (B) place
- (C) time
- (D) manner

4 Select the synonym of the given word. "novice"

- (A) lavish
- (B) close
- (C) beginner
- (D) meagre

5 One who abandons his religious faith.

- (A) apostate
- (B) prostate
- (C) profane
- (D) agnostic

6 Choose the correct preposition.

Avik gave me a present _____ my birthday.

- (A) in
- (B) at
- (C) on
- (D) into

7 Choose the correct option.

Our task had been completed before sunset.

(A) We completed our task before sunset.

(B) We have completed our task before sunset.

(C) We complete our task before sunset.

(D) We had completed our task before sunset.

8 We must respect the elders.

(A) The elders deserve respect from us.

(B) The elders must be respected.

(C) The elders must respected.

(D) Respect the elders we must.

9 Identify the interjection from the following sentence.

"Oh, I didn't see you there!"

(A) oh

(B) there

(C) see

(D) you

10 Choose the correct answer.

I met him after a long time, but he gave me the cold shoulder.

(A) scolded me

(B) abused me

(C) insulted me

(D) ignored me