

ARMY PUBLIC SCHOOL DAGSHAI

ENTRANCE EXAMINATION FOR SESSION 2018-19 FOR ADMISSION TO CLASS-XI (NON-MEDICAL)

Time: 1 Hours

Max. Marks: 100

<u>SUBJECT</u>	<u>M.MARKS</u>	<u>M.OBTD</u>	<u>TEACHER</u>	<u>SIG</u>
ENGLISH	25	_____	_____	_____
PHYSICS	25	_____	_____	_____
MATHS	25	_____	_____	_____
CHEMISTRY	25	_____	_____	_____
TOTAL	100	_____	_____	_____

General Instructions:

1. The candidates are advised to fill the columns correctly.
2. The booklet is divided into four parts i.e. English, Physics, Maths & Chemistry.
3. Candidate should check the booklet carefully and if there is any defect or discrepancy, the same should be requested for replacement.
4. The candidates are required to solve the question on the booklet only.
5. The candidates are not allowed to write or mention anything on the booklet which can reveal his/her identity.
6. There will be no negative marking for wrong answers.

TO BE FILLED IN BY APSD
CODE _____

TO BE FILLED IN BY THE CANDIDATE

Name of the Candidate: _____ Registration No. _____

Studying in Class _____ Class to which admission is sought _____

TO BE FILLED IN BY APSD

CODE _____

Q1. Read the passage given below and answer the questions that follow:

12

Just now the lilac is in bloom,
 All before my little room;
 And in my flower-beds, I think,
 Smile the carnation and the pink;
 And down the borders, well I know,
 The poppy and the pansy blow....
 Oh! There the chestnuts, summer through,
 Beside the river make for you
 A tunnel of green gloom, and sleep
 Deeply above; and green and deep
 The stream mysterious glides beneath,
 Green as a dream and deep as death.
 Oh, damn! I know it! And I know
 How the May fields all golden show,
 And when the day is young and sweet,
 Gild gloriously the bare feet
 That run to bathe.....
 Du lieber Gott! (oh my God)
 Here am I, sweating, sick and hot,
 And there the shadowed waters fresh
 Lean up to embrace the naked flesh.
 Temperamentvoll German Jews (spirited)
 Drink beer around; and there the dews
 Are soft beneath a morn of gold.
 Here tulips bloom as they are told;
 Unkempt about those hedges blows
 An English unofficial rose;
 And there the unregulated sun
 Slopes down to rest when day is done,
 And wakes a vague unpunctual star,
 A slippered Hesper; and there are
 Meads towards Haslingfields and cotton
 Where das Betreten's not verboten. (entering is not forbidden)
 if only I could be)
 In Grantchester, in Grantchester! –

1.1 Answer the following questions briefly:

10

- a) Why does the stream look dreamy and green?

- b) How does the poet contrast his present location with that of his home?

- c) What does Gild do on a pleasant day?

- d) Why is the poet missing chestnut trees, cornfields....?

- e) Where is the poet at present, probably, in the poem?

1.2 Find out words from the passage which mean the same as the following: 2

- a) pleasing
- b) indefinite

Q2. Each of the following sentences contains at least one error. Correct the errors and rewrite the corrected sentences. 5 marks

1. I tried to interrupt into their conversation but was told on.

2. It is important to take pride of whatever we do on life.

3. I left home at Sunday morning to catch a flight for England.
4. He was scolded from the teacher for failing to pass the test.
5. For all that excitement, I had forgotten to take my present for him.

Q3. Read the following dialogue and then complete the report by choosing the correct options from the ones given below. 8 marks

Utkarsh: I have lost my wallet

Inspector: How did you lose it?

Utkarsh: My pocket was picked

Inspector: Where did it happen?

Utkarsh: In the local market, sir.

Utkarsh reported to the inspector (1) _____ lost

his wallet. The inspector asked him

(2) _____ Utkarsh replied (3) _____

_____ The inspector further asked

him (4) _____

Utkarsh replied that it had happened in the local market.

Q 1: Tick the correct answer:

1. Which part of eye control the amount of light entering the eye: (mark 1)

a) Pupil	b) Iris
c) Cornea	d) Ciliary muscles
2. What should be the resistance of an ideal voltmeter: (mark 1)

a) very high	b) very low
c) moderate	d) none of these
3. When a 4 ohm resistor is connected across the terminals of a 12 V battery, the number of coulombs passing through the resistor per second is: (mark 1)

a) 0.3	b) 3
c) 4	d) 12
4. Commercial unit of electrical energy is: (mark 1)

a) joule	b) watt second
c) kilowatt hour	d) volt coulomb
5. Direction of magnetic field lines inside the magnet is: (mark 1)

a) north to south	b) south to north
c) either north to south or south to north	d) none of these
6. The materials used to make permanent magnets, are known as: (mark 1)

a) soft magnetic materials	b) hard magnetic materials
c) metals	d) non-metals
7. The mirror preferred in solar cookers is: (mark 1)

a) plane mirror	b) convex mirror
c) concave mirror	d) all these
8. We are able to read the text in a book because of: (mark 1)

a) regular reflection	b) defused reflection
c) refraction	d) dispersion
9. When an object is placed between F and 2F in front of a convex lens, the image formed is: (mark 1)

a) real and erect	b) virtual and inverted
c) virtual and erect	d) real and inverted

5

10. In case of cataract, which part of eye is affected: (mark 1)
- | | |
|-------------|-----------|
| a) iris | b) cornea |
| c) eye lens | d) retina |

Q II: Answer the following questions in one word or one sentence:

1. How many electrons will constitute one coulomb of charge? (mark 1)
2. Which part of eye contains cells which are sensitive to light? Name these light sensitive cells. (mark 1)
-
-
3. A person is wearing a spectacle of power -3 diopter. What is the focal length of the lens? (mark 1)
-
-
4. Name the substance added to LPG cylinders to detect the leakage of gas?(mark 1)
-
-
5. Think you are sitting in a chamber with your back to one wall. An electron beam moving horizontally from back wall towards the front wall is deflected by a strong magnetic field to your right side. What is the direction of magnetic field? (mark 1)
-
-

Q III: Answer the following questions briefly:

1. How much energy is given to each coulomb of charge passing through a 6 V battery? (marks2)

2. Draw the diagram showing image formation by a convex mirror, when an object is placed at a distance of 25 cm in front of it? (marks 2)

3. How much, the resistance of a resistor, is changed when its diameter is doubled? (marks 2)

4. What is anaerobic degradation? Name the main constituent of LPG. (marks 2)

5. Why does the cord of an electric heater not glow while the heating element does? (marks 2)

Q1. Tick the right answer:

(1X10=10)

- 50 mL of water was taken in beakers A, B and C. A small amount of CuSO_4 , NaOH and NaCl were added to beaker A, B and C respectively. The temperature of beaker A and B increased where in beaker C decreases. The correct statements are:
 - In beaker C exothermic process has occurred.
 - In beaker A and B exothermic process has occurred.
 - In beaker C endothermic process has occurred.
 - In beaker A and B endothermic process has occurred.
 - (i) and (ii)
 - (ii) and (iii)
 - (iii) and (iv)
 - (ii) and (iv)
- When a solution of acid is mixed with a solution of base:
 - the temperature of the solution decreases.
 - the temperature of the solution increases.
 - salt formation takes place.
 - the temperature of the solution remains same.
 - (i) and (ii)
 - (ii) and (iii)
 - (iii) and (iv)
 - (i) and (iii)
- Which of the following is not a mineral acid?
 - Nitric acid
 - Citric acid
 - Sulphuric acid
 - Hydrochloric acid
- Silver articles become black on prolong exposure to air, due to the formation of :
 - Ag_2O
 - Ag_2S
 - Ag_3N
 - Ag_2S and Ag_3N
- Which of the following will form acidic oxide?

- a) An element with atomic number 7
 - b) An element with atomic number 3
 - c) An element with atomic number 12
 - d) An element with atomic number 19
6. n-pentane and iso-pentane are:
- a) two homologues of alkane series.
 - b) two isomers.
 - c) two isotopes.
 - d) two allotropes.
7. Carbon forms four covalent bonds by sharing its four valence electrons with four univalent atom e.g chlorine. After the formation of four bonds, carbon attain electronic configuration of :
- a) Helium
 - b) Neon
 - c) Argon
 - d) Oxygen
8. Which of the following metals are obtained by electrolysis of their chlorides in molten state? i) Na ii)Ca iii) Fe iv) Cu
- a) (i) and (iv)
 - b) (iii) and (iv)
 - c) (i) and (iii)
 - d) (i) and (ii)
9. Which of the following statement is not correct?
- a) All metal carbonates react with acid to give, salt, water and CO_2 .
 - b) All metal oxides react with water to give salt and acid.
 - c) Some metals react with acid to give salt and hydrogen.
 - d) Some non metal oxides react with water to form acid.
10. Arrange the following elements in the order of their increasing non metallic character. Li, O, C, Be, F
- a) $\text{F} < \text{O} < \text{C} < \text{Be} < \text{Li}$
 - b) $\text{Li} < \text{Be} < \text{C} < \text{O} < \text{F}$
 - c) $\text{F} < \text{O} < \text{C} < \text{Be} < \text{Li}$
 - d) $\text{F} < \text{O} < \text{Be} < \text{C} < \text{Li}$

QII. Answer the following questions in one word or one sentence. (1X5=5)

1. Would you place two isotopes of chlorine, Cl-35 and Cl-37 in different slot or same slot in a periodic table. Justify.

2. Write IUPAC names of the following: i) $\text{CH}_3\text{CH}_2\text{CH}(\text{Cl})\text{CH}_2\text{COOH}$
ii) $\text{CH}_3\text{COCH}_2\text{CH}_3$

3. The reaction of 'X' with Fe_2O_3 is highly exothermic and is used to join railway tracks. Identify 'X'. Write the chemical equation for this reaction.

4. Write the name given to the bases that are highly soluble in water. Give an example of which is used as antacid.

5. Zinc liberates hydrogen gas when reacted with dilute HCl whereas Cu does not. Explain why?

QIII. Explain following reactions with chemical equations: (5X2=10)

1. Dehydration of Ethanol.

2. Roasting of Zinc ore:

3. Saponification Reaction

4. Hydrogenation of propene.

5. Reaction of metal hydrogencarbonate with dilute sulphuric acid.

Section A (5 x 2 = 10)

Q1 to Q5 are MCQ type, tick mark the correct option:-

1. For what value of 'k' the quadratic equation:- $kx^2 - 6x - 2 = 0$ has equal roots:-
a) 0 b) 36 c) -36 d) $-9/2$.
2. The n^{th} term of an AP is given by:-
a) $a_n = a + nd$ b) $a_n = S_n - S_{n-1}$ (S = Sum of first n terms)
c) $a_n = a + n - 1$ d) $a_n = S_n \div S_{n-1}$ (S = Sum of first n terms)
3. The value of $(1 - \cos^2 x) \operatorname{cosec}^2 x$ is:-
a) 1 b) $\operatorname{cosec}^4 x$ c) $\sin^4 x$ d) none
4. If for any data, the mode is 2 and mean is 0.5, then the value of median is:-
a) 3 b) 9 c) 1 d) none
5. The coordinates of the centroid of a triangle ABC with co-ordinates A(1, 2), B(3, 4), and C(5, 6) is:-
a) (3, 4) b) (4, 3) c) (4.5, 6) d) (6, 4.5)

Section - B

6. The angles of elevation of the top of a tower from two points at distances 'a' and 'b' meters from the base and in the same straight line with it are complementary. Prove that the height of the tower is \sqrt{ab} . (3)

7. If $a \cos\beta - b \sin\beta = c$, prove that $a \sin\beta + b \cos\beta = \pm\sqrt{a^2 + b^2 - c^2}$ (4)

8. A golf ball has diameter equal to 14 cm. Its surface area has 150 dimples each of radius 7mm. Calculate total surface area which is exposed to the surrounding assuming that the dimples are hemispherical. (4)

9. In the adjoining figure, m and n are two parallel tangents at A and B . The tangent at C makes an intercept DE between m and n . Prove that $\angle DFE = 90^\circ$. (F is the centre of the circle)
- (4)

