NEW STANDARD ACADEMY

DPP -03 **NEET - JEE**

CLASS : 10TH

PHYSICS

1. State Snell's law of refraction.
2. Define principal axis of a spherical mirror.
3. Why mirrors used in search light are parabolic and not concave spherical?
4. You read a newspaper because of the light that it reflects. Then why do you not see even a faint image of yourself in the newspaper?
5. We known that plane and convex mirrors produce virtual images of objects. Can they produce real images under some circumstances ? Explain

CHEMISTRY

1. Why is photosynthesis considered an endothermic reaction?
2. When water is added gradually to a white solid X, a hissing sound is heard and a lot of heat is produced forming a product Y. A suspension of Y in water is applied to the walls of a house during white washing. A clear solution of Y is also used for testing carbon dioxide gas in the laboratory.
   (a) What could be solid X? Write its chemical formula.
   (b) What could be product Y? Write its chemical formula.
   (c) What is the common name of the solution of Y which is used for testing carbon dioxide gas? (d) Write chemical equation of the reaction which takes place on adding water to slid X.
   (e) Which characteristic of chemical reactions is illustrated by this example?
3. When metal Xis treated with a dilute acid Y, then a gas Z is evolved which burns readily by making a little explosion.
   (a) Name any two metals which can behave like metal X.
   (b) Name any two acids which can behave like acid Y.
   (c) Name the gas Z.
   (d) ls the gas Z lighter than or heavier than air?
   (e) ls the reaction between metal X and dilute acid Y, exothermic or endothermic?
   (f) By taking a specific example of metal X and dilute acid Y, write a balanced chemical equation for the reaction which takes place. AIso indicate physical states of all the reactants and products.
4. The metal M reacts vigorously with water to form a solution S and a gas G. The solution S turns red litmus to blue whereas gas G, which is lighter than air, burns with a pop sound. Metal M has a low melting point and it is used as a coolant in nuclear reactors.
   (a) What is metal M?
   (b) What is solution S? ls it acidic or alkaline?
   (c) What is gas G?
   (d) Write a balanced chemical equation for the reaction which takes place when metal M reacts with water.
   (e) ls this reaction exothermic or endothermic?
5. Gas A, which is the major cause of global warming, combines with hydrogen oxide B in nature in the presence of an environmental factor C and a green material D to form a six carbon organic compounds E and a gas F. The gas F is necessary for breathing.
   (a) What is gas A?
   (b) What is the common name of B?
   (c) What do you think could be C?
   (d) What is material D? Where is it found?
   (e) Name the organic compound E.
   (Q What is gas F? Name the natural process during which it is released.

BIOLOGY

1. Where is digested food absorbed into blood in human body?
2. Fill in the following blanks with suitable words.
   (A) All green plants are.....
   (B) All non-green plants and animals are.....
   (C) Heterotrophs depend on..... and other..... for food.

(D) Green plants use .....and .....to make food.

(E) Iodine turns blue-black on reacting with.....

3. **(A)** what is chlorophyll? What part does chlorophyll play in photosynthesis?

   (B) (i) Which simple food is prepared first in the process of photosynthesis?

   (ii) Name the food which gets stored in plant leaves.

4. What substances are contained in gastricjuice? What are their functions?
5. **(A)** What is the role of hydrochloric acid in our stomach?

   (B) What is the function of enzymes in the human digestive system?

MATHS

1. If the sum of first m terms of an AP is $2m^2+3m$, then what is its second term?
2. How many natural numbers are there between 200 and 500, which are divisibleby 7?
3. Which term of the AP 3, 14, 25, 36, will be 99 more than its 25th term?
4. The sum of first n terms of an AP is $5n-n^2$. Find the n^{th} term of the AP.
5. If S_n denotes the sum of n-terms of an AP whose common difference is d and first term is a, find $S_n-2S_{n-1}+S_{n-2}$.
6. In an AP, if $S_5+S_7=167$ and $S_{10}=235$, then find the AP where S_n denotes the sum of its first n terms.
8. The ninth term of an AP is equal to seven times the second term and twelfth term exceeds five times the third term by 2. Find the first term and the common difference.
9. The p^{th}, q^{th} and μh terms of an AP are a, b and c respectively. Show that $a(q-r)+b(r-p)+c(p-q)=0$.
9. If S_n denotes the sum of first n terms of an AP. Prove that $S_{12}=3(S_8-S_4)$.
10. Find the number of natural numbers between 101 and 999 which are divisible byboth 2 and 5.