CLASS: IX   **SEPTEMBER MONTHLY TEST – (SCIENCE)**   **MARKS : 40**

DATE: 26.9.19   **SCIENCE CODE: 086**   **Time: 1½ hrs**
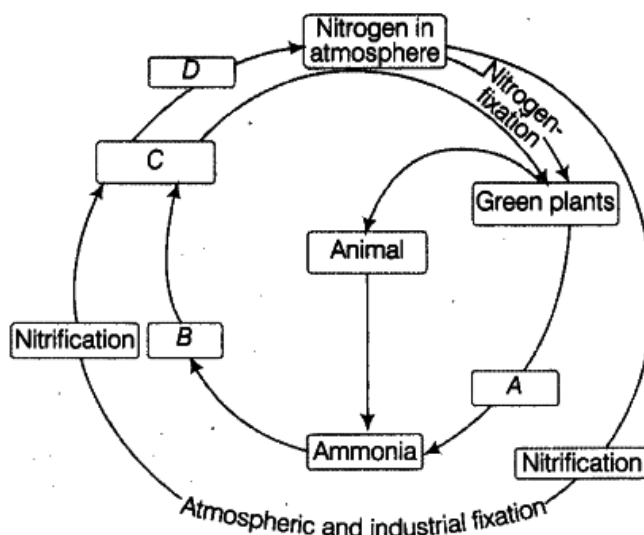
Part – I

I. Choose the best answer: (15X1=15)

1. Identify A, B, C and D in the nitrogen cycle given below.

a. A- ammonification, B-nitrites,

   C- nitrates, D- denitrification

b. A- nitrites, B- ammonification

   C- denitrification, D- nitrates

c. A- Denitrification , B- nitrites,

   C- nitrates,D- ammonification

d. A- nitrites, B- ammonification,

   C- denitrification, D- nitrates

2. Why is ozone layer important?
a. It is used by living organisms for respiration.
b. It increases the temperature of the earth.
c .It reduces the amount of ultraviolet rays reaching the earth.
d. It reflects the heat from the earth back into the atmosphere.

3. Select the term that means 'cycling of elements in an ecosystem'.

a. Chemical cycle   b. Geochemical cycle
c. Bio-geochemical cycle   d. Geological cycle

4. Which is the gas associated with the greenhouse effect?
a. Carbon-dioxide   b. Oxygen
c. Nitrogen dioxide   d. Sulphur dioxide

5. The weight of a body is 120 N on the earth. If it is taken to the moon, its weight will be about

a. 120 N   b. 60 N
c. 20 N   d.720 N

6. Gravitational force is a
a. repulsive force   b. attractive force
c. neither (a) nor (b)   d. both (a) and (b)

7. **Match the following:**

Column I		Column II (Incubation Period)	
(A)	Carbon-dioxide	(p)	Bacteria
(B)	Nitrogen fixation	(q)	ODS (Ozone Depletion Substance)
(C)	CFCs (Chlorofluorocarbons)	(r)	Green house gas
(D)	Decomposers	(s)	Acid rain
(E)	Oxides of nitrogen and sulphur	(t)	Mineralization

a. A-r, B-p, C-q, D-t, E-s   b. A-q, B-p, C-r, D-s, E-t

c. A-q, B-p, C-r, D-s, E-t   d. A-p, B-q, C-r, D-s, E-t

8. The universal constant of gravitation G has the unit
a. N   b. m/s^2 c. $(N\ m^2)/kg^2$ d. J

9. Which of the following statements is/are correct?
1. Mass of an object is the measure of its inertia.
2. Heavier the object smaller is the inertia.
3. The mass of an object is variable.
a. Only 1   b. 1 and 3
c. 2 and 3   d. 1 and 2

10. **Assertion:** Kepler's second law of planetary motion is also known as Kepler's law of areas.
     Reason: The line joining the planet and the sun sweeps equal areas in equal intervals of time.

a. Both assertion and reason are true and reason is the correct explanation of assertion.

b. Both assertion and reason are true but reason is not the correct explanation of assertion.

c. Assertion is true but reason is false.

d. Both Assertion and Reason are false.

11. Pigments of natural colours can be separated by
a. chromatography   b. centrifugation
c. filtration   d. sublimation

12. Identify the correct statement(s).
   a. Mixtures which have a uniform composition throughout are called homogeneous mixtures or solutions.
   b. A homogeneous mixture can have a variable composition.
   c. Heterogeneous mixtures have non-uniform compositions.
   d. All of these

13. Identify the false statement.
   a. Colloids are homogeneous
   b. Colloids show Tyndall effect
   c. Colloids show Brownian movement
   d. The size of colloidal particles ranges between 1-100 nm.

14. **Assertion:** When a beam of light is passed through a colloidal solution placed in a dark place the path of the beam becomes visible.

   Reason: Light gets scattered by the colloidal particles.

a. Both assertion and reason are true and reason is the correct explanation of assertion.

b. Both assertion and reason are true but reason is not the correct explanation of assertion.

c. Assertion is true but reason is false.

d. Both Assertion and Reason are false.

15. **Match the following:**

List-I		List-II	
(P)	Miscible liquids	(1)	Distillation
(Q)	Immiscible liquids	(2)	Crystallization
(R)	Impure copper sulphate	(3)	Sublimation
(S)	Salt and ammonium chloride	(4)	Funnel

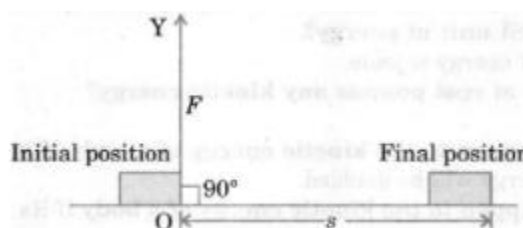|	P	Q	R	S
(a)	1	3	2	4
(b)	1	4	2	3
(c)	3	4	1	2
(d)	2	4	3	1

Part- II

II. Answer the following in two sentences: (3X2=6)

16. State any two properties of a solution.
17. a. what is the work done in the situation shown in the graph?

b. a lamp consumes 1000J of electrical energy in 10s. What is its power?

18. Why is carbon cycle important for us?

III. Answer the following briefly: (3X3=9)

19. A rickshaw puller pulls the rickshaw by applying a force of 100N. If the rickshaw moves with constant velocity of 36km/h. find the power of rickshaw puller.
20. a. State the principle of the process of centrifugation.

b. List any two applications of centrifugation.

21. ''Burning of fossil fuel is a cause of global warming.'' Justify the statement.

IV. Give detail answer for the following: (2x5=10)

22. a. How much water should be mixed with 12ml of alcohol to obtain 12% alcohol? Calculate.

b. Write any two differences between colloidal solutions and suspensions.

23. a. Derive a relationship between ''g'' and ''G''.

b. What is the mass of an object whose weight is 49 Newton?