BCM SCHOOL BASANT AVENUE, DUGRI LUDHIANA
XI BIOLOGY ASSIGNMENT

1 **Match the followings and choose correct option :**

A. Aleurone layer	**i. without fertilization**
B. Parthenocarpic fruit	**ii. Nutrition**
C. Ovule	**iii. Double fertilization**
D. Endosperm	**iv. Seed Options**

Options: a. A-i, B-ii, C-iii, D-iv **b. A-ii, B-i, C-iv, D-iii**
c. A-iv, B-ii, C-i, D-iii **d. A-ii, B-iv, C-i, D-iii**

2 **The correct sequence of flow of electrons in the light reaction is**
a. PSII, plastoquinone, cytochromes, PSI, ferredoxin
b. PSI, plastoquinone, cytochromes, PSII, ferredoxin
c. PSI, ferredoxin, PSII,
d. PSI, plastoquinone, cytochromes, PSII, ferredoxin

3 **Identify the correct and incorrect match about respiratory volume and capacities and mark the correct answer**
i. Inspiratory capacity (IC) = Tidal Volume + Residual Volume
ii. ii. Vital Capacity (VC) = Tidal Volume (TV) + Inspiratory Reserve Volume (IRV) + Expiratory Reserve Volume (ERV).
iii. iii. Residual Volume (RV) = Vital Capacity (VC) – Inspiratory Reserve Volume (IRV)
iv. iv. Tidal Volume (TV) = Inspiratory Capacity (IC) – Inspiratory Reserve Volume (IRV)

4 **The cross-section of a plant material showed the following features when viewed under the microscope.**
a. The vascular bundles were radially arranged.
b. Four xylem strands with exarch condition of protoxylem. To which organ should it be assigned?

5 **Write the functions in brief in column B, appropriate to the structures given in column A.**

Column A	Column B
Nictitating membrane	i. _____
Tympanum	ii. _____
Copulatory pad	iii. _____

6 **3CO2 + 9ATP + 6NADPH + Water glyceraldehyde 3 – phosphate + 9 ADP + 6 NADP+ + 8 Pi**
Analyze the above reaction and answer the following questions:
a. How many molecules of ATP & NADPH are required to fix one molecule of CO2?
b. Where in the chloroplast does this process occur?

7 **A process is occurring throughout the day, in 'X' organism. Cells are participating in this process. During this process ATP, CO2 and water are evolved. It is not a light dependent process.**
a. Name the process.
b. Is it a catabolic or an anabolic process?
c. What could be the raw material of this process?

8 **For completion of respiration process, write the given steps in sequential manner**
a. Diffusion of gases (O2 and CO2) across alveolar membrane.
b. Transport of gases by blood.
c. Utilisation of O2 by the cells for catabolic reactions and resultant release of CO2.
d. Pulmonary ventilation by which atmospheric air is drawn in and CO2 rich alveolar air is released out.
e. Diffusion of O2 and CO2 between blood and tissues.

9 **Comparison of the volume of the filtrate formed per day (180 litres per day) with that of the urine released (1.5 litres), suggest that nearly 99 per cent of the filtrate has to be reabsorbed by the renal tubules. This process is called reabsorption. The tubular**

	epithelial cells in different segments of nephron perform this either by active or passive mechanisms. For example, substances like glucose, amino acids, Na+ , etc., in the filtrate are reabsorbed actively whereas the nitrogenous wastes are absorbed by passive transport. Reabsorption of water also occurs passively in the initial segments of the nephron. During urine formation, the tubular cells secrete substances like H+, K+ and ammonia into the filtrate. Tubular secretion is also an important step in urine formation as it helps in the maintenance of ionic and acid base balance of body fluids. **a.Identify the correct statement** **Statement 1 – Tubular epithelial cells perform reabsorption either by active or passive mechanisms.** **Statement 2 – Amount of the filtrate formed by the kidneys per minute is glomerular filtration rate** **Statement 3 – The first step in urine formation is the filtration of blood.** **Statement 4 – Renin can stimulate the glomerular blood flow.** **b. How filtration slits are formed?** **c. What is the role of Tubular secretion during urine formation?**	