

8. (a)
- Highly vascularized/network of blood capillaries.
  - Large surface area for gaseous exchange.
  - Thin membrane.
  - Moist lining.
- (4 marks)**
- (b) **Breathing in :-** External intercostal muscles contract internal intercostals muscles relax lifting the ribcage upwards and outwards. Muscles of diaphragm contract hence, it flattens the volume of the thoracic cavity increases, while the pressure decreases. Higher air pressure in the atmosphere forces air into lungs through nose.
- Breathing out:-** External intercostals muscle relax while intercostals muscles contract moving the ribcage downwards and inwards. The muscles of diaphragm relax hence, the diaphragm assumes dome shape, the volume of thoracic cavity decreases while pressure increases forcing air out of the lungs through the nose.
- (16 marks)**

**30.4.3 Biology Paper 3 (231/3)**

1. (a) **A:** Liver.  
**B:** Stomach.  
**C:** Spleen.  
**D:** Small intestines.  
**G:** Duodenum. **(5 mark)**
- (b) **E:** Store faeces/undigested food/indigestible food materials.  
**F:** It contains/stores/harbours bacteria; which produce cellulose/enzymes to breakdown/digest cellulose/digestion of cellulose. **(3 marks)**
- (c) Colon/large intestines. **(1 mark)**
- (d) (i) Male. **(1 mark)**  
(ii) Presence of the prostate gland/testis/seminal vesicles. **(1 mark)**
- (e) (i)  $\frac{9}{15} = X0.6 / \frac{3}{5}$
- (ii)  $\frac{14.6cm}{0.6} = 24.3cm$  **(4 marks)**

2.

Substance	Food substance being tested	Procedure	Observation	Conclusion
S	Protein.	To 1 ml of food substance add equal amount of sodium hydroxide. Add a few drops of copper sulphate solution dropwise. Shaking after each drop.	Purple violet colour.	Protein present.
T	“	”	No colour change/ blue colour.	Protein absent.
U	“	“	Light pale purple colour	Trace protein present.

**(9 marks)**

3. (a)

Specimen	Mode of dispersal	Feature that adapts the specimen to mode of dispersal
K	Animal(s).	Hooks.
L	Animal(s).	Fleshy/succulent/juicy
M	Wind.	Parachute hairs/pappus
N	Wind.	Winged/pericarp
P	Animal(s).	Fleshy/succulent
Q	Self mechanism/explosive	Lines of dehiscence/weakness/sutures

(12

marks)

(b) (i)

- Epicarp.
- Mesocarp.
- Endocarp.
- Seed.

(2 marks)

(ii) Axile/central.

(1 mark)

(c) Seed/endocarp.

(1 mark)