

GENERAL SCIENCE AND ABILITY

Q

No. 4

(a) Write a note on liver juice "Bile".

Liver excretes a juice called "Bile" which is stored in gall bladder. It enters in duodenum through bile duct. Bile contains no enzymes but it contains bile pigment which gives it green colour. If these pigments trapped into liver then Jaundice may result. Trapping of these pigments may be due to the accumulation of cholesterol in the liver, which may change into gall stone. Bile pigments are formed from the breakdown of haemoglobin in the liver. Bile also contains bile salts which help in the breakdown of fats.

(b) Describe role of kidney in excretion.

i Excretion,

"The system in which waste products are excreted out of the body is called excretory system."

ii Kidney role in excretion,

A pair of kidneys is present in the body for the excretion of waste metabolic

products.

ii Position of kidney, -

Right kidney is slightly lower than the left kidney.

iii Number of kidneys, -

Kidneys are two in number.

iv Position of kidneys, -

They are attached to the dorsal body wall, on either side of the vertebral column.

v Unit of kidney, -

Each kidney is divided into 2-million tiny tubes called nephron.

vi Working of Nephron, -

a) Filtration, -

Blood containing waste products enters into glomerulus. Due to high blood pressure and porous walls of the glomerulus blood is filtered here. Blood cells and proteins remain in the glomerulus while glucose, urea, uric acid and some important salts are filtered here. That filtrate enters into the proximal part of the nephron.

b) Reabsorption, -

All the useful constituents of the filtrate like glucose, salts and water is reabsorbed in the proximal loop of Henle, and distal part of the nephron by the peritubular capillaries which are surrounding these parts.

3) Secretion, -

The inner layer of nephron also secretes nitrogenous waste products into the lumen of nephron.

All the waste products from the distal part enter into the collecting duct which interns open into the pelvis. From pelvis these enters into the Ureter then store into the urinary bladder from there excreted outside through urethra.

Other functions of the kidney, -

- i. Regulation of blood volume.
- ii. Regulation of blood pressure
- iii. Regulation of ion balance
- iv. Regulation of acid-base balance.
- v. Synthesis of vitamin