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**MATRIC NUMBER:18/MHS02/025**

**QUESTION: Write a short note on urine formation**

Urine Formation – by filtering the blood the nephrons perform the following functions

- (1) regulate concentration of solutes in blood plasma; this also regulates pH
- (2) regulate water concentrations; this helps regulate blood pressure
- (3) removes metabolic wastes and excess substances

Urine Formation:

Glomerular Filtration – water and solutes are forced through the capillary walls of the glomerulus into the Bowman's capsule (glomerular capsule)

Filtrate – the fluid that is filtered out into Bowman's capsule

Glomerular Filtration Rate is regulated by mechanisms:

Autoregulation – the smooth muscle in the afferent arteriole responds to blood pressure changes by constricting and dilating to regulate filtration rate.

Sympathetic control – causes afferent arterioles to constrict or dilate when activated by a nerve impulse (fight or flight response to keep blood pressure up)