

U.G. 6th Semester Examination-2025**PHYSIOLOGY****[HONOURS]****Course Code : PHYSIOL-H-CC-T-14****(Formation & Excretion of Urine)**

Full Marks : 40

Time : 2½ Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.***GROUP-A**1. Answer any five questions: 2×5=10

- a) What is vasa recta?
- b) State the functions of macula densa.
- c) Define GFR (glomerular filtration rate).
- d) What are diuretics? Give an example.
- e) What are aquaporins? State its physiological importance.
- f) Mention physiological functions of ADH.
- g) What is diapedesis?
- h) Mention the abnormal constituents of urine in adult human.

[Turn Over]

GROUP-B

2. Answer any two questions : $5 \times 2 = 10$

- a) Discuss briefly the peculiarities in renal circulation.
- b) Discuss the mechanism of glucose reabsorption in renal tubule.
- c) What is the counter-current mechanism in urine formation?
- d) Describe the auto-regulation of renal circulation.

GROUP-C

3. Answer any two questions: $10 \times 2 = 20$

- a) State the source of renin. Describe the role of kidney in maintaining the acid base of blood. $2+8$
- b) Describe the innervation of urinary bladder. Describe the process of micturition. $4+6$
- c) Describe the non-excretory functions of kidney. Mention the mechanism of action of diuretics. $8+2$
- d) What is filtration fraction? Discuss the factors affecting glomerular filtration rate. $2+8$