

Exam 4 breakdown – **updated 4/21/25**

Use this exam breakdown. Look through the PowerPoints for the slides covering these topics. Look through the practice exams for each chapter for questions pertaining to these topics. Know your vocabulary words. If there are flow diagrams pertaining to these topics, make sure to work through them.

Ch 10 – kidney physiology (15 ques)

- 3 on reabsorption of substances from the different parts of the nephron (PCT, Loop, DCT, collecting duct)
- 2 on GFR regulation (when BP is within 80 -160mmHg, versus below 80 or above 160)
- 2 on diuretics and where they act on nephron
- 1 on ADH and aldosterone and where they act on the nephron
- 3 on kidney diseases / disorders
- 4 on autonomic regulation of detrusor muscle and proximal urethral sphincter (under parasympathetic versus sympathetic regulation)

Ch 9 – immune physiology (15 ques)

- 2 on general immune organs or cells of body
- 3 on external innate immunity (see flow diagram)
- 4 on internal innate immunity (see flow diagram)
- 2 on cell mediated immunity (see flow diagram)
- 1 on antibody mediated immunity (see flow diagram)
- 2 on classification of immunity into passive natural and artificial versus active natural and artificial
- 1 on sequence of immunity (see flow diagram)

Ch 15 – reproduction physiology (20 ques)

- 2 questions on male reproductive glands
- 1 ques on oogenesis (maturation of egg and the follicles that house it during 28 menstrual cycle)
- 3 ques on blood tests for cancer (PSA, CA 125, and BRCA gene – including how mutation in BRCA gene increases **prostate cancer risk in men and ovarian and breast cancer risk in women**)
- 2 on what happens in the ovary and to the endometrium in the 28 menstrual cycle (Ex. What days is egg maturing, ovulating, and days that the corpus luteum is making progesterone, and what is happening to uterine endometrium).
- 1 ques on risks for ovarian cancer
- 3 ques on male reproductive structures (**seminiferous tubules, leydig cells, Sertoli cells, spermatogonia, epididymis, vas deferens, ejaculatory duct, urethra, corpus cavernosa, cremaster muscle**)
- 2 on female reproductive structures [uterine endometrium (and what hormone it responds to), uterine myometrium (and what hormones it responds to), fallopian tubes, ovaries, external genitalia (labia, clitoris, vestibule, and perineum)]
- 3 ques on hormones (progesterone and what produces it, prostaglandin and what produces it and what effect it has, estrogen & testosterone and what pituitary hormones (**LH & FSH**) stimulates their production)
- 3 ques on repro disorders (BPH, prostate cancer, endometriosis, polycystic ovarian syndrome, leiomyomas, ovarian cancer)