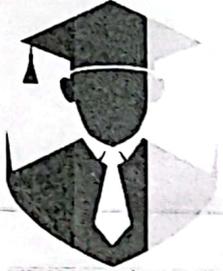
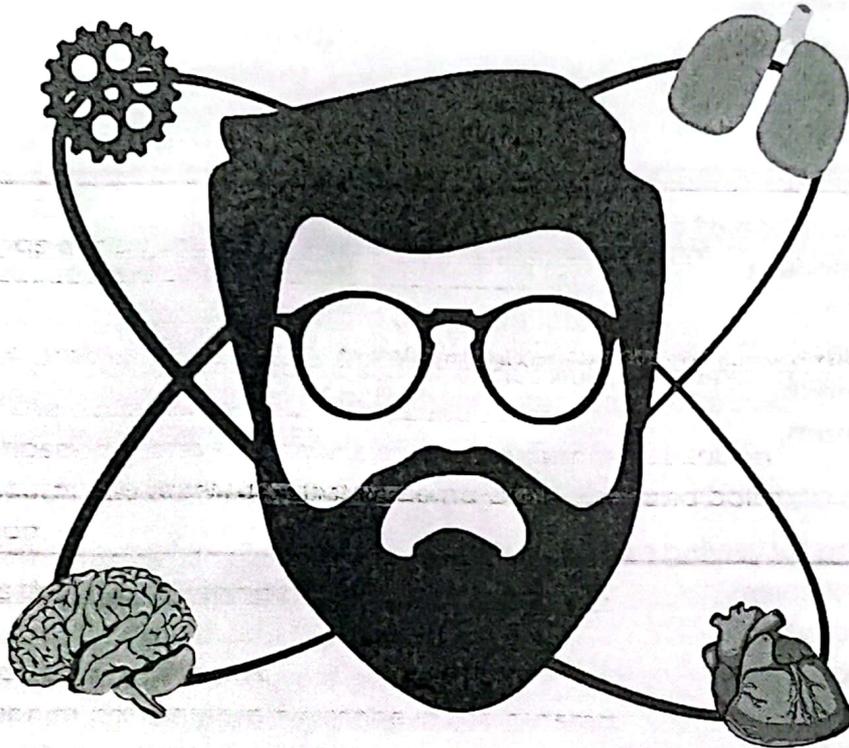


Level 2 - Semester 4

Physiology - Endocrine



برلين



Scan Me



4L.E

Lecture 7

MCQ

- c) Skin
- d) Nephron
- e) Bloodstream

Dr. Action Potential

1	<p><u>The biologically active form of calcium is that present in:</u></p> <ul style="list-style-type: none"> a) Ionized form. b) Bound to proteins. c) Complexed to anions. d) Bone. e) Teeth. 	D
2	<p><u>The intestine adapts to a low in diet by increasing the absorbed proportion:</u></p> <ul style="list-style-type: none"> a) Calcium. b) Phosphate. c) Magnesium. d) Cobalt. e) Cupper. 	A
3	<p><u>Active absorption of calcium occurs in:</u></p> <ul style="list-style-type: none"> a) Duodenum. b) Ileum. c) Colon. d) Stomach. e) Jejunum. 	A
4	<p><u>Which of the following resorb bones?</u></p> <ul style="list-style-type: none"> a) Osteoblasts. b) Osteocytes. c) Osteoclasts. d) Osteoid. e) Periosteum. 	C
5	<p><u>The normal plasma calcium level is about:</u></p> <ul style="list-style-type: none"> a) 5-7 mg%. b) 7-9 mg%. c) 9-11 mg%. d) 11-13 mg%. e) 13-15 mg%. 	C

6	<p>The parathormone is secreted by the:</p> <ul style="list-style-type: none"> a) Para-follicular cells of the thyroid gland. b) Chief cells of the thyroid gland. c) Oxyphil cells of the thyroid gland. d) Chief cells of the parathyroid gland. e) Oxyphil cells of the parathyroid gland. 	D
7	<p>The solubility product means that:</p> <ul style="list-style-type: none"> a) $Na^+ \times PO_4^{3-} = K$ (constant). b) $K^+ \times PO_4^{3-} = K$ (constant). c) $Ca^{++} \times HCO_3^- = K$ (constant). d) $Ca^{++} \times PO_4^{3-} = K$ (constant). e) $Cu^{++} \times PO_4^{3-} = K$ (constant). 	D
8	<p>As regard parathormone, which of the following statements is false?</p> <ul style="list-style-type: none"> a. Raise the lowered Ca^{++} level. b. \uparrow the absorption of Ca^{++} from the small intestine. c. \uparrow the reabsorption of Ca^{++} from the kidney. d. \uparrow the number and level of activity of osteoblasts of bone. e. \downarrow secretion of Ca^{++} in milk. 	D
9	<p>Calcitonin is secreted by the:</p> <ul style="list-style-type: none"> a) Para-follicular cells of the thyroid gland. b) Chief cells of the thyroid gland. c) Oxyphil cells of the thyroid gland. d) Chief cells of the parathyroid gland. e) Oxyphil cells of the parathyroid gland. 	A
10	<p>Which of the following causes bone resorption?</p> <ul style="list-style-type: none"> a) Vitamin D. b) Calcitonin. c) Parathormone. d) Growth hormone. e) Sex hormones (estrogens and androgens). 	C

11	<p><u>Which of the following would you expect to find in a patient who has been low in calcium for 2 mo?</u></p> <ul style="list-style-type: none"> a) Increased formation of 24,25-dihydroxycholecalciferol. b) Decreased amounts of calcium-binding protein in intestinal epithelial cells. c) Increased parathyroid hormone secretion. d) A high plasma calcitonin concentration. e) Increased plasma phosphate 	C
12	<p><u>Which of the following is not involved in regulating plasma Ca²⁺ levels?</u></p> <ul style="list-style-type: none"> a) Kidneys b) Skin c) Liver d) Lungs e) Intestine 	D
13	<p><u>A patient with parathyroid deficiency 10 days after involuntary damage to the parathyroid glands during thyroid surgery would probably have</u></p> <ul style="list-style-type: none"> a) low plasma phosphate and Ca²⁺ levels and tetany. b) low plasma phosphate and Ca²⁺ levels and tetanus. c) a low plasma Ca²⁺ level, increased muscular excitability, and spasm of the muscles of the upper extremity (Trousseau sign). d) high plasma phosphate and Ca²⁺ levels and bone demineralization. e) increased muscular excitability, a high plasma Ca²⁺ level, and bone demineralization. 	C
14	<p><u>What factor controls the rate of formation of 1,25-dihydroxycholecalciferol?</u></p> <ul style="list-style-type: none"> a. Amount of calcium in the diet b. Concentration of parathyroid hormone in the plasma c. Concentration of 25-hydroxycholecalciferol in the plasma d. Rate of formation of vitamin D₃ in the skin e. All of the above 	B
15	<p><u>The primary site of 1,25-Dihydroxycholecalciferol formation from its immediate precursor is the</u></p> <ul style="list-style-type: none"> a) Bone b) Liver c) Skin d) Nephron e) Bloodstream 	D

has

(7)

MCQ

16	<p>1,25-Dihydroxycholecalciferol affects intestinal Ca²⁺ absorption through a mechanism that.....</p> <ul style="list-style-type: none"> a. includes alterations in the activity of genes. b. activates adenylyl cyclase. c. decreases cell turnover. d. changes gastric acid secretion. e. involves degradation of apical calcium channels. 	A
17	<p>Regarding the effects of chronic excess glucocorticoids on calcium homeostasis, which of the following is not correct?</p> <ul style="list-style-type: none"> a. Decrease renal calcium reabsorption. b. Decrease intestinal calcium absorption. c. Decrease osteoblastic bone formation. d. Decrease estrogen and testosterone production e. Decrease parathormone release. 	E
18	<p>The concentration of Ca⁺⁺ in plasma is:</p> <ul style="list-style-type: none"> a) The main regulator of parathormone secretion. b) About 90% of the total plasma calcium concentration. c) Increased when plasma PH rises. d) Higher than normal in tetany. e) Reduced in hyperparathyroidism. 	A
19	<p>Thyrocalcitonin:</p> <ul style="list-style-type: none"> a) Is produced by thyroid follicular cells. b) Increases basal metabolic rate. c) Reduces blood Ca⁺⁺. d) Secretion occurs when blood phosphate level rises. e) Stimulates osteoclastic activity. 	C
20	<p>Parathormone secretion is usually increased:</p> <ul style="list-style-type: none"> a) In patients with chronic renal failure. b) In people taking excessive amount of vitamin D. c) In hyperfunction of adenohipophysis. d) When blood phosphate level falls. e) In hypoproteinemia. 	A

Short essay questions:

1. Discuss the functions of calcium in the human body?
2. Factors affecting calcium absorption?
3. Enumerate hormones affecting Ca metabolism
4. How cortisol affecting Ca metabolism?
5. Actions of (PTH - Calcitonin - Vitamin D)
6. Effects of Vitamin D on bone.

(7)

Thyro
a) Rec
b) Incr

25

Past years exams

21	<p><u>PTH produces one of the following actions?</u></p> <p>a) ↓ osteoclastic activity. b) ↑ urinary excretion of Ca^{2+} and PO_4^{3-}. c) ↓ intestinal absorption of Ca^{2+} and PO_4^{3-}. d) Formation of active vitamin D₃ (calcitriol) in the kidneys.</p>	D
22	<p><u>The solubility product means that:</u></p> <p>a) $\text{Na}^+ \times \text{PO}_4^{3-} = K$ (constant). b) $\text{K}^+ \times \text{PO}_4^{3-} = K$ (constant). c) $\text{Ca}^{++} \times \text{HCO}_3^- = K$ (constant). d) $\text{Ca}^{++} \times \text{PO}_4^{3-} = K$ (constant). e) $\text{Cu}^{++} \times \text{PO}_4^{3-} = K$ (constant).</p>	D
23	<p><u>Which of the following hormones is secreted by the parafollicular cells of thyroid glands?</u></p> <p>a) Thyroxin. b) Triiodothyronine. c) Calcitonin. d) Cortisol. e) TSH</p>	C
24	<p><u>High levels of PTH are not consistent with one of the following:</u></p> <p>a) Parathyroid tumors. b) Recurrent formation of renal calculi. c) Frequent occurrence of spontaneous fractures. d) Osteoporosis. e) A low serum Ca^{++} level associated with muscle stiffness.</p>	E

25	<p>Thyrocalcitonin:</p> <ul style="list-style-type: none"> a) Reduces blood [Ca⁺⁺]. b) Increases BMR. c) Stimulates osteoclastic activity. d) Is secreted by the follicular cells. 	C
26	<p>The intestine adapts to a low in diet by increasing the absorbed proportion:</p> <ul style="list-style-type: none"> a) Calcium. b) Phosphate. c) Magnesium. d) Cobalt. e) Cupper 	A
27	<p>The normal plasma calcium level is:</p> <ul style="list-style-type: none"> a) 5-7 mg%. b) 7-9 mg%. c) 9-11 mg%. d) 11-13 mg%. e) 13-15 mg%. 	C
28	<p>The parathormone is secreted by</p> <ul style="list-style-type: none"> a) Para-follicular cells of the thyroid gland. b) Chief cells of the thyroid gland. c) Oxyphil cells of the thyroid gland. d) Chief cells of the parathyroid gland. e) Oxyphil cells of the parathyroid gland 	D
29	<p>What is the effect of chronic renal failure on Ca²⁺ metabolism?</p> <ul style="list-style-type: none"> a) Decreased glomerular filtration rate leads to ↓ serum (phosphate) b) Decreased parathyroid hormone (PTH) levels. c) Decreased serum phosphate leads to increased ionized [Ca²⁺]. d) Increased production of 1,25-dihydroxy cholecalciferol e) Results in renal osteodystrophy 	E

30	<p><u>Ca⁺⁺ absorption is increased by:</u></p> <ul style="list-style-type: none">a) Hypercalcemia.b) Oxalate in diet.c) Iron overload.d) 1,25dihydroxycholecalciferol.e) Increase Na⁺ absorption.	D
31	<p><u>Active form of vit.D is called:</u></p> <ul style="list-style-type: none">a) Calcitoninb) Calcitriolc) Calcidiold) Calcitetrole) None of the above	B
32	<p><u>As regard parathormone which of the following statements is false?</u></p> <ul style="list-style-type: none">a) Raise lowered Ca⁺⁺ levelb) Inc. absorption of Ca⁺⁺ from the small intestinec) Inc. reabsorption of Ca⁺⁺ from the kidneyd) Inc. reabsorption of Pi from the kidneye) Stimulates α-1-hydroxylase enzyme	D