1) The parathormone is secreted by which of the following? 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**
2) Which of the following hormones is secreted by the parafollicular cells of thyroid glands? a) Thyroxin. b) Triiodothyronine. c) Calcitonin. d) Cortisol. e) TSH	C
3) Which of the following is not Involved in regulating plasma Ca2+ levels? a. Kidneys b. Skin c. Liver d. Lungs e. Intestine	D
4) Calcitriol acts on target organs to regulate calcium metabolism; These organs are: a) Spleen, intestine and Bone. b) Bone, liver and lymph nodes. c) Liver, kidneys and spleen d) Kidneys, bone and intestine e) Lymph nodes and liver.	**D**
5) The primary physiological stimulus for parathyroid hormone parathormone secretion: a) Decrease vitamin b) Decrease in plasma calcium. c) Increase blood phosphate. d) Decrease thyroid secretion. e) Increase bone resorption	B

6) Parathyroid hormone: a) Helps in deposition of Ca++ in bones. b) Increases plasma phosphates. c) Decreases phosphate reabsorption from the PCT. d) Stimulates osteoblasts. e) Is stimulated by TSH.	C
7) Parathyroid hormone : a) Stimulates phosphate reabsorption in DCT. b) Inhibits osteoclasts. c) Increases synthesis of active vitamin D. d) Stimulates osteoblasts. e) Decreases calcium reabsorption from DCT.	C
8) The normal plasma calcium concentration is: a) 9 mg%. b) 9 gm%. c) 9 mg/ml. d) 9 ml%.	A
9) Which of the following would you expect to Find in a patient whose diet has been low In calcium for 2 months? a) Increased formation of 24,25-dlhydroxycholecalciferol. b) Decreased calcium-binding protein in intestinal epithelial cells c) Increased parathyroid hormone secretion. d) A high plasma calcitonin concentration e) Increased plasma phosphate.	C
10) Which of the following results from the action of parathyroid hormone (PTH) on the renal tubule? a) Inhibition of 1alpha-hydroxylase b) Stimulation of Ca2+ reabsorption in the distal tubule c) Stimulation of phosphate reabsorption in the proximal tubule d) Interaction with receptors on the luminal membrane of the proximal tubular cells e) Decreased urinary excretion of cyclic adenosine monophosphate (cAMP)	B

11) 1,25-Dihydroxycholecalciferol affects intestinal Ca2+ absorption by: 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**
12) Which of the following is NOT correct for PTH: a) It is secreted from the parathyroid gland. b) It causes excretion of calcium in the renal tubules. c) It is secreted in response to hypocalcemia. d) It causes activation of vitamin D in the kidney. e) It helps in resorption of calcium from bones.	B
13) Parathyroid hormone (PTH): a) Inhibits osteoclasts. b) Stimulates osteoblasts. c) Stimulates phosphate reabsorption in DCT. d) Increases synthesis of active vit D. e) Decreases calcium reabsorption from DCT.	D
14) All the following statements regarding Parathormone (PTH) are correct EXCEPT: a) It stimulates bone resorption. b) It decreases phosphate reabsorption in PCT. c) It inhibits formation of 1,25 dihydroxy vitamin D. d) It inhibits osteoblasts.	C
15) Parathyroid hormone: a) Secretion is regulated by a pituitary feedback control system. b) Acts directly on bone to increase bone resorption. c) Decreases absorption of calcium from the intestines. d) Decreases phosphate excretion.	**B**

16) PTH produces one of the following actions? 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.	**D**
17) Patient with parathyroid deficiency 10 days after thyroidectomy will show: a) Low plasma phosphate and Ca2+ levels and tetanus b) Low plasma Ca2+ levels, increased muscular excitability and Trousseau's sign c) High plasma phosphate and Ca2+ and bone demineralization d) Increased muscular excitability, high plasma Ca2+ and bone dimerization	B
18) All the following hormones increase plasma calcium level EXCEPT: a) 1,25 DHCC. b) PTH. c) Clacitonin. d) growth hormone	C
19) Calcitonin: a) Is secreted from follicular cells of thyroid gland. b) Is secreted from parathyroid gland. c) Increases plasma calcium level. d) Decreases plasma calcium level. e) Leads to lipolysis.	**D**
20) High levels of PTH are not consistent with one of the following: 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.	E

21) The intestine adapts to a low ..... in diet by increasing the absorbed proportion: a) Calcium. b) Phosphate. c) Magnesium. d) Cobalt. e) Cupper	A
22) Ca^{++} absorption is increased by: a) Hypercalcemia. b) Oxalate in diet. c) Iron overload. d) 1,25 dihydroxycholecalciferol. e) Increase Na^{+} absorption.	D
23) What is the effect of chronic renal failure on $Ca2^{+}$ metabolism? 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
24) In hyperparathyroidism, which of the following is correct? a) Low serum calcium b) High serum phosphorus c) Low serum calcium and high serum phosphorus d) High serum calcium and low serum phosphorus e) None of the above	**D**
25) A 3-year-old girl has been brought for consultation. She had multiple rachitic deformities.Which of the following vitamins recommended as apart of treatment a) Vitamin D b) Vitamin E c) Vitamin B1 d) Vitamin B6 e) Folic acid	**A**

26) Active form of vit. D is called: a) Calcitonin b) Calcitriol c) Calcidiol d) Calcitetrol e) None of the above	B
27) A 54-year-old patient complained of muscle weakness, fatigue and depression. She had a recent episode of renal stones and bone scan revealed osteopenia. She hadn't entered menopause. She had taken daily multivitamin tablets plus additional calcium supplementsBlood chemistry analysis:revealed elevated serum calcium level.Urine analysis:revealed phosphaturia Patient's symptoms are most likely caused by a) Excess synthesis of vit. D b) Excess synthesis of PTH c) Excess synthesis of calcitonin d) Excess synthesis of Ca e) Excess synthesis of phosphate A	B
28) The normal plasma calcium level is: a) 5-7 mg%. b) 7-9 mg%. c) 9-11 mg%. d) 11-13 mg%. e) 13-15 mg%.	C
29) As regard parathormone which of the following statements is false? a) Raise lowered Ca?* level b) Inc. absorption of Ca"* from the small intestine c) Inc. reabsorption of Ca'* from the kidney d) Inc. reabsorption of Pi from the kidney e) Stimulates a-1-hydroxylase enzyme	**D**
30) Active absorption of calcium occurs in: a) Duodenum. b) Ileum. c) Colon. d) Stomach. e) Jejunum.	A

31) In chronic renal failure : a) High PTH and high vit D b) High PTH , low vit D c) Low PTH and low vit D d)Low PTH and high vit D	B
32) Normal serum ionic calcium level is about: a) 10 mg%. b) 5 mg%. c) 2.5 mg%. d) 12 mg%. e) 20 mg%.	B
33) Which of the following does NOT promotes calcium deposition: a) Growth hormone. b) TSH. c) Vitamin D3. d) Testosterone. e) Estrogens.	B
34) Which of the following resorb bone? a) Osteoblasts. b) Osteocytes. c) Osteoclasts. d) Osteoid. e) Periosteum.	C
35) The parathyroid hormone (PTH) a) secreted by the thyroid parafollicular cells. b) Decreases the renal excretion of phosphates c) If increased, it depresses the activity of the anterior pituitary gland. d) Mobilizes Ca mainly from the bones e) Secretion is stimulated when the blood Ca level is increased	D

36) Concerning vitamin D. all the following is true except: a) it can be formed in the body. b) It increases the intestinal absorption of Ca c) It is essential for the calcification of cartilage at the epiphyses of bones d) It is activated in the kidney by conversion to 1,25 di-hydroxy-chole□calciferols. e) The formation of its active form is inhibited by the PTH	E
37) The serum calcium level: a) Is normally about 30 mg %. b) Influences the rate of PTH secretion by an action on the hypothalamus. c) Is approximately 10% ionized and 90% combined. d) Becomes less ionized when the blood PH falls. e) Greatly affects the neuromuscular excitability.	E
38) The serum Ca level falls in all the following conditions except: a) If sodium citrate is added b) In case of vitamin D deficiency. c) If the thyroid gland is perfused with a calcium rich solution. d) In cases of hyperventilation e) When the blood phosphate level falls	E
39) The PTH: a) Increases the serum phosphate level b) Decreases calcium absorption from the GIT c) Is Increases by the thyroid follicles cells d) Mobilizes calcium from bones	**D**
40) A 59-year-old woman has osteoporosis, hypertension, hirsutism, and hyperpigmentation. Magnetic resonance imaging indicates that the pituitary gland is not enlarged. Which of the following conditions is most consistent with these findings? A) Pituitary adrenocorticotropic hormone (ACTH)-secreting tumor B) Ectopic ACTH-secreting tumor C) Inappropriately high secretion rate of corticotropin-releasing hormone D) Adrenal adenoma E) Addison's disease	B

41) Parathyroid hormone: a. Stimulates renal tubular Ca2+ reabsorption in exchange with Mg2+ excretion b. stimulate osteoclast proliferation and activity c. Increases intestinal absorption of Ca2+ independent on 1, 25 (OH)2 Da d. Secretion is increased by the rise in plasma Ca2+ concentration e. Decreases the production of 1, 25 (OH)2 D3	B
42) **PTH increases the serum Ca by all the following mechanisms except**: a) Stimulating bone resorption by increasing the osteoclastic activity b) Increasing the bone cell permeability to Ca c) Interference with filtration of Ca in the renal glomeruli. d) Activation of the 1-hydroxylase enzyme in the kidney. e) Increasing Ca reabsorption in the distal renal tubules	C
43) All the following about calcitonin is true except: a) It is a calcium lowering hormone secreted by the C cells in the thyroid gland b) It is more active in young individuals than in adults. c) Its actions are mediated by increasing the intracellular cyclic AMP content. d) Its secretion is not affected by acetylcholine. e) It increases the number and activity of the osteoclasts in bones.	E
44) The parathormone: a) Increases the urinary output of phosphate b) Inhibits calcium mobilization from bones c) Secretion is regulated by the serum Na level d) Directly promotes Ca absorption from the intestine	A
45) Parathyroid hormone (PTH) is accurately described by which of the following statements? a. It is secreted in response to an increase in plasma Ca2+ concentration b. It acts directly on bone cells to increase Ca 2+ deposition. c. It acts directly on intestinal cells to decrease Ca 2+ absorption d. It causes a decrease in cAMP within renal proximal tubular cells e. It is secreted in response to an increase in plasma P04- concentration	**E**

46) How does estrogen protect against osteoporosis? A) By increasing osteoclast activity B) By inhibiting PTH-mediated bone resorption C) By decreasing calcium absorption D) By promoting phosphate retention E) By reducing vitamin D activation	B
47) Which hormone decreases plasma calcium levels by inhibiting osteoclast activity? A) Parathormone B) Calcitonin C) Aldosterone D) Growth hormone E) Estrogen	B
48) Which of the following conditions is caused by hypocalcemia? A) Osteoporosis B) Tetany C) Hyperparathyroidism D) Renal calculi E) Hyperthyroidism	B
49) **Which symptom is NOT associated with hyperparathyroidism**? A) Muscle weakness B) Bone pain C) Polyuria D) Hypotonia E) Carpopedal spasm	E
50) A patient with hyperparathyroidism is at risk for developing: A) Hypocalcemia B) Renal calculi C) Hypophosphatemia D) Muscle hypertonia E) Vitamin D deficiency	B

51) Which medication is used in hypoparathyroidism to mimic PTH effects without causing antibody formation? A) Calcium gluconate B) Vitamin D3 C) Dihydrotachysterol D) Ammonium chloride E) Calcitonin	C
52) **In latent tetany, plasma calcium levels are typically**: A) Below 7 mg% B) 7-9 mg% C) 9-11 mg% D) Above 11 mg% E) Normal range	B
53) Which of the following contributes to tetany in a patient with renal failure? A) Phosphate retention B) Hypercalcemia C) Excess Vitamin D D) Increased PTH secretion E) Alkalosis	**A**
54) Osteitis fibrosa cystica is a complication of which disorder? A) Hypoparathyroidism B) Hyperparathyroidism C) Tetany D) Vitamin D deficiency E) Hypothyroidism	B
55) A patient presents with carpopedal spasm and laryngeal stridor. Which condition is most likely? A) Hyperparathyroidism B) Tetany C) Osteoporosis D) Renal calculi E) Hyperthyroidism	B

56) What is the primary biochemical finding in hyperparathyroidism? A) Hypocalcemia B) Hypercalcemia C) Hypophosphatemia D) Hyperphosphatemia E) Hypermagnesemia	B