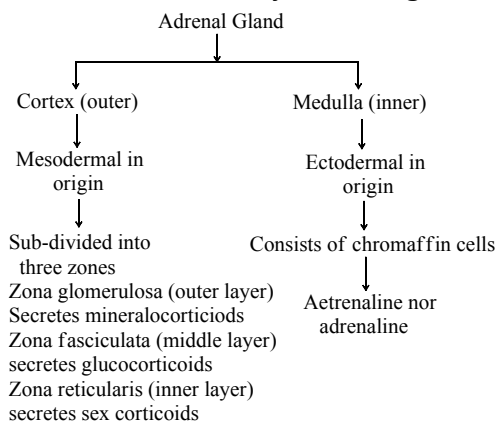


Topic :- Chemical Coordination and Integration

- 1 (a)
Cretinism is caused by deficiency of thyroid hormone in infants. This person has slow body growth and mental development with reduced metabolic rate. Myxoedema is caused by deficiency of thyroid hormone in adults.
- 2 (a)
Dwarfism is caused by deficiency of growth hormones in childhood. It is characterized by small but well proportioned body and sexual immaturity.
- 3 (b)
Thymus is a pyramidal shaped lymphoid organ situated in front of the heart in the upper part of sternum. Thymus is active in young ones but gradually becomes inconspicuous after sexual maturity. Hence, the decline and disappearance of this gland by the middle age is the primary causes of ageing.
Thymus is enveloped by a thin loose, fibrous connective tissue capsule. Septa extending inwards from the capsule, divide the two lobes of gland into a number of small lobules. Each lobule is distinguished into a cortical parenchyma containing numerous lymphocytes and a medullary mass of large irregularly branched and interconnected epithelial cells (reticular cells)
- 4 (b)
A-Cortex, B-Medulla, C-Zona glomerulosas, D-Zona fusiculata, E-Zona reticulate.
Hormones secreted by cortex region of adrenal gland are commonly called corticoids



- 5 **(a)**
Pancreas is a mixed gland, in which pancreatic acini are exocrine and islets of Langerhans are endocrine. Islets of Langerhans consists of following three parts:
- α -cells, which produce glucagon hormone
 - β - cells , which produce insulin hormone
 - δ - cells, which produce somatostatin
 - F cells, which produces pancreatic polypeptide
- 6 **(b)**
(i) Father of Endocrinology is Thomas Addison, a British physician (1793-1860). Addison's disease caused by deficiency of mineralocorticoids has been named after him
(ii) Crystalline insulin was prepared by Abel (1926)
(iii) Glucagon was discovered by Kimball and Murlin
- 7 **(b)**
Diabetes is a sugar disease so, advised to patient of diabetes to eat sugar free food. Blood cancer is known as leukaemia.
- 8 **(b)**
Prolactin is secreted by anterior pituitary gland, which stimulates mammary gland development during pregnancy and lactation after child birth. Placenta is a connection between the uterine wall of mother and their foetus. It helps in exchange of material between these two. Placenta secretes human chorionic gonadotrphin, oestrgen and progesterone.
- 9 **(a)**
PTH (Parathormone/Parathyroid Hormone/Collip's Hormone)
Functions
(i) Regulate calcium-phosphate level in blood
(ii) Increase the rate of calcium, absorption from intestine
(iii) Help in the bone dissolution of newly formed asymmetric bone
(iv) Affects the growth of bones, membrane permeability nerve functioning and muscular activity of blood
- 10 **(d)**
A-agonist, B-antagonist
- 11 **(c)**
Both (a) and (b)
- 12 **(b)**
Hormone is a chemical messenger.

- 13 **(b)**
Chemically, hormones are of different nature like protein hormones (hypothalamic hormones), steroid (Sex hormones) and biogenic amines (like thyroxine hormones).
- 14 **(d)**
MSH (Melanocyte Stimulating Hormone) is secreted from intermediate lobe of pituitary gland. Pars intermedia is the boundary between the anterior and posterior lobes of the pituitary. This hormone causes dispersal of pigment granules in the pigment cells thereby darkening the colour in certain animals like fishes and amphibians.
- 15 **(a)**
The neurohypophysis or posterior lobe of pituitary gland secretes two hormones, *i. e.*, oxytocin or pitosin and vasopressin or pitressin or antidiuretic hormone (ADH). Oxytocin is also called as birth hormone or milk ejecting hormone because it promotes contraction of the uterine muscles and myoepithelial cells of the lactating breast and helps in squeezing milk into the large ducts behind the nipple. ADH increases the reabsorption of water in the distal convoluted tubule, collecting tubules and collecting ducts.
- 16 **(c)**
A-CNS, B-libido, C-anabolic
- 17 **(c)**
The reproductive system of human male contains a pair of Cowper's gland or bulbourethral glands. These glands are approximately the size of pea, located in the floor of pelvic cavity. Their secretion which contains mucous for lubrication enters the semen through the ducts. These are homologous to Bartholin's glands in females.
- 18 **(b)**
Calcitonin is secreted by thyroid gland, lowers the concentration of calcium (and phosphate) in the body by suppressing the release of calcium from bone and promoting excretion of calcium and phosphate by kidneys.
- 19 **(b)**
Vitamin- D and parathormone are responsible for regulation of calcium and phosphate in the body.
Vitamin- C is an antioxidants and promote wound healing.
Vitamin- A is essential for normal vision and forms the retinal pigments rhodopsin and iodopsin.
- 20 **(d)**
All the given statements are correct

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	a	a	b	b	a	b	b	b	a	d
Q.	11	12	13	14	15	16	17	18	19	20
A.	c	b	b	d	a	c	c	b	b	d

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