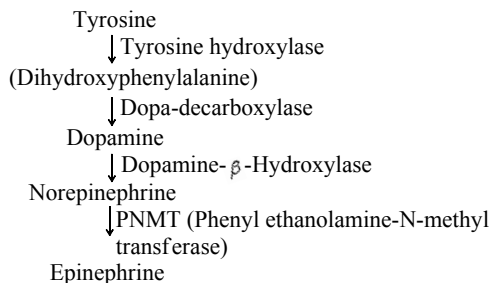


Topic :- Chemical Coordination and Integration

- 1 (a)
Sertoli cells are the cells that line the seminiferous tubules in the testis. These cells protect the spermatids and convey nutrients to both the developing and mature spermatozoa. Sertoli cells are regulated by FSH (follicle stimulating hormone) as the FSH receptors are confined to the sertoli cells.
- 2 (b)
Enterogastrone hormone produced by small intestine slows down secretion of gastric juice. Enterokinase is an enzyme in intestinal juice that activates trypsinogen to trypsin.
- 3 (b)
1 to 2% pancreatic tissue
- 4 (a)
Norepinephrine is secreted from adrenal medulla. It rises blood pressure.
- 5 (c)
General steps in hydrophilic or water soluble or protein nature hormone action
Hormone binds to plasma membrane to specific site
(Receptor)
↓
Response-I (Given by receptor)
Generation of secondary messenger (cyclic AMP or Ca²⁺ etc)
↓
Biochemical Responses
↓
Physiological Responses
e.g., Ovarian growth, etc.
- 6 (b)
Prolactin is a lactogenic hormone produced by anterior lobe of pituitary gland. It stimulates milk production in cow.

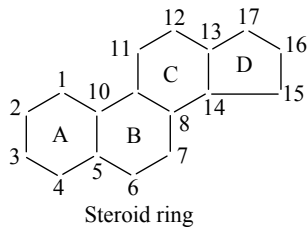
- 7 **(b)**
Follicle Stimulating Hormone (FSH) is produced from anterior pituitary lobe
- 8 **(a)**
Parathormone is secreted from parathyroid gland. This hormone helps to regulate the metabolism of calcium and certain other minerals like phosphate. Combined effect of parathormone and calcitonin normally maintain the blood calcium level.
- 9 **(a)**
(i) Leydig cells secretes testosterone hormone which enhances the spermatogenesis
(ii) Neurohypophysis secretes oxytocin and ADH. ACTH is provide cell mediated immunity secreted by adenohipophysis
- 10 **(c)**
Hypothyroidism causes both cretinism and myxoedema.
- 11 **(a)**
Thyroid gland, adrenal gland and pituitary gland are endocrine glands but kidney is an excretory organ.
- 12 **(a)**
Pituitary gland, pineal gland, mammary glands and medulla of adrenal gland are derived from **ectoderm**.
- 13 **(b)**
The atrial wall of our heart secretes very important peptide hormone called Atrial Natriuretic Factor (ANF), which is peptide in nature. ANF decreases blood pressure. When blood pressure is increased, ANF is secreted which causes dilation of the blood vessels. This reduces the blood pressure

- 14 **(d)**
The conversion of tyrosine to epinephrine involves four steps
(i) Ring hydroxylation
(ii) Decarboxylation
(iii) Side chain hydroxylation
(iv) N-methylation



15 **(b)**
Thymus is an endocrine gland, which is active in young ones but gradually becomes inconspicuous after sexual maturity. Like other lymphoid tissues, thymus undergoes atrophy in response to adrenoglucocorticoids.

16 **(c)**
Sterol (cyclopentanoperhydrophenanthrene ring) generally gives rise to most of the steroid hormones



17 **(c)**
Adrenaline (epinephrine) is a hormone produced by adrenal medulla and is secreted in great amounts during emotional stress. It elevates the glucose level in blood stream (by **glycogenolysis**) which is accompanied by **increase in oxygen consumption**, body temperature, heat production. Adrenaline also cause an increase in the flow of blood by dilating blood vessels.

18 **(a)**
Cushing's syndrome is the result of excessive secretion of cortisol by adrenal cortex. This leads to increased protein breakdown which is manifest by wasting of the skeletal muscle and a decreased skin thickness (which thus bruises easily). High level of cortisol in blood may also elevate the blood glucose level.

19 **(a)**
Progesterone is a principal female sex hormone. It is steroid and secreted during the latter half of the menstrual cycle in human females by temporary endocrine tissue, the corpus luteum.

20 **(c)**
Thymus gland secretes the peptide hormones called thymosins. Thymosin plays a major role in the differentiation of T-lymphocytes, which provides cell-mediated immunity. In addition, thymosins also promote the production of antibodies to provide humoral immunity

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

PE