DPP
DAILY PRACTICE PROBLEMS

Class : XIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 7

Topic :- Chemical Coordination & Integration

1 **(c)**
Hypersecretion of thymosine (hormone of thymus) may lead to myasthenia gravis characterised by abnormal neuromuscular excitation

2 **(d)**
Hypersecretion of growth hormone (GH) or somatotrophin hormone (STH) from adenohypophysis or anterior lobe of pituitary gland causes gigantism in children and acromegaly in adulthood. Gigantism involves excessive growth (lengthening) of bones with enlargement of internal organs as well. Acromegaly causes abnormal thickening of bones (due to ossification of periosteum) especially at face and margins of hand and feet.

3 **(d)**
The father of Endocrinology is **Thomas Addison**. The first endocrine disease reported was Addison's disease (1855), caused by the destruction of adrenal cortex.

4 **(d)**
Our body has one pair of adrenal glands, one at the anterior part of each kidney. The gland is composed of two types of tissues. The centrally located tissue is called adrenal medulla and outside this lies the adrenal cortex

5 **(d)**
Thyroid gland secretes three hormones; thyroxine, tri-idothyronine, calcitonin. Thyroxine increases BMR (Basal Metabolic Rate) and stimulates growth, tissue differentiation and metamorphosis of tadpoles into adult frog.

6 **(a)**
Parathyroid and adrenals are endocrine glands.

7 **(c)**
Thyrocalcitonin and parathyroid hormone controls the calcium level in our body

9 **(d)**
Hormones acts on specific sites or receptors of target organs. So, if we remove the receptor molecule from the target organs, the target organ will not respond to hormone.

10 **(b)**
Oestrogen is responsible for the development of secondary sexual characters in female.

11 **(c)**
Hassall's corpuscles are spherical oval bodies present in the thymus and acts as phagocytes.

12 **(d)**

A-interstitial cells, B-intertubular spaces, C- Testosterone

13 **(d)**

Biochemical classification of hormones

Chemical Nature	**Origin**	**Examples**
1. Biogenic amines or amino acid derivatives	Derival from tyrosine	Thyroxin-e, adrenalin-e, noradrenaline and melatoni-n
2. Proteinaceou-s or polypeptide	Chains of amino acid	Hypothalamic hormones, ACTH, GH, vasopressin, oxytocin, parathor-mone, calcitonin, MSH, etc.
3. Glycoprotein aceous	Protein + carbohydr-ates	Thyrotro-pin, FSH, LH
4. Steroid	Derived from cholestero-l	Sex hormone and adrenoco-rticoids

14 **(d)**

Oestrogen and testosterone are female and male sex hormones respectively. Chemically, these are steroid hormones (lipid soluble) which easily pass through the cell membrane and bind to specific intracellular receptor in cytoplasm.

15 **(d)**

Somatotrophin or growth hormone (GH) is secreted from anterior pituitary. It is most important stimulant of proper normal growth body. It promotes biosynthesis of DNA, RNA and proteins in all body cells. It stimulates cellular growth and proliferation, growth and repair of bone muscles and connective tissue.

16 **(c)**

Cholecystokinin is a peptide hormone of the gastrointestinal system responsible for stimulating the digestion of fat and protein. Cholecystokinin, previously called pancreozymin is synthesised by I-cells in the mucosal epithelium of the small intestine and secreted in the duodenum, the first segment of the small intestine, and causes the release

of digestive enzymes and bile from the pancreas and gall bladder, respectively.
It also acts a hunger suppressant. Recent evidence has suggested that it also plays a major role in inducing drug tolerance to opioide like morphine and heroin and is partly implicated in experiences of pain hypersensitivity during opioid withdrawal

17 **(d)**

A – LH, B – Graafian follicles, C – Corpus luteum

18 **(b)**

Glands which have duel function due to possession of both exocrine as well as on endocrine region are called heterocrine glands. They secrete hormone in association with other substances for their respective function, *e.g.*, ovaries, testes and pancreas

19 **(a)**

The progesterone pill affects the pituitary gland and lowers the secretion of FSH (follicle stimulating hormone) and LH (luteinizing hormone). Due to low FSH and LH, ovulation does not occur,*i.e.*, there is no secondary oocyte to be fertilized.

20 **(a)**

Parathyroid hormone (PTH) is a **peptide** hormone secreted by the parathyroid gland in response to low levels of calcium in the blood.

ANSWER-KEY										
Q.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
A.	**C**	**D**	**D**	**D**	**D**	**A**	**C**	**C**	**D**	**B**
Q.	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
A.	**C**	**D**	**D**	**D**	**D**	**C**	**D**	**B**	**A**	**A**