DPP
DAILY PRACTICE PROBLEMS

Class : XIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 6

Topic :- Chemical Coordination & Integration

1 **(b)**
A-iodine, B-hypothyroidism, C-goitre

2 **(d)**
Pineal gland secretes two biogenic hormones *i.e.*, melatonin and serotonin. Melatonin is secreted in a diurnal cycle (the amount changes throughout 24 hour period) where the amount remains low during daylight hours but increases during dark hours.
Serotonin
Serotonin secretion is induced by light. It act as vasoconstrictor and helps to increase the blood pressure

3 **(b)**
(i) Liver is the exocrine gland (gland which drains out their secretion through duct)
(ii) Pancreas, testis and ovary are the heterocrine gland
(iii) Thymus, adrenal and pituitary, thyroid are the endocrine gland

4 **(a)**
Epinephrine is synthesized from amino acid tyrosine. While oestrogen and progesterone are modified steroids and prostaglandins are basically fat.

5 **(b)**
Progesterone secreted from corpus luteum, prepares uterine endometrium for receiving blastocysts for implementation. Progesterone is also called **pregnancy hormone** and anti-FSH and anti- LH. It maintains pregnancy and prevents formation of new follicles and ovulation during gestation period. If pregnancy has not occurred, corpus luteum degenerates and next menstrual cycle is repeated.

6 **(b)**
Hyposecretion of hormones of **adrenal cortex** leads to loss of sodium and water through urine, low blood pressure and hypotension.

7 **(c)**
A-Sella tursica; B-Hypothalamus

8 **(b)**
The hormone was given by **Starling** for secretion. This is the first hormone discovered.

9 **(b)**
Somatotropic hormone (Growth hormone) is the major hormone in secretion of anterior pituitary. It is most important stimulant of normal growth of body. It promotes biosynthesis of DNA, RNA and protein in the cells. Obviously it stimulates cellular growth

and proliferation, growth and repair of bones, muscles and connective tissue.

10 **(a)**

Exophthalmic goitre (Crave's disease) is thyroid enlargement in which the thyroid secretes excessive amount of thyroid hormones. It is characterized by protrusion of eye balls because of fluid accumulation behind them, loss of weight, rapid heart beat, nervousness, restlessness.

11 **(b)**

The juxtaglomerular cells of kidney produce a peptide hormone called renin, which increase blood pressure through angiotension-II

12 **(b)**

Prostaglandin does not contain polypeptide. Prostaglandins are fatty acid derivatives. They are secreted by many organs (like kidney, gonads, seminal vesicles, thymus etc.) into their tissues. It was first reported in semen of man and produced by prostate gland. It contains either contraction/relaxation of smooth muscles or dilation/ contraction of blood capillaries.

13 **(b)**

Pineal gland

14 **(a)**

Properties of hormones are

(i) They have low molecular weight
(ii) They are soluble in water and blood
(iii) They are non-nutrient
(iv) They can act in very low concentration
(v) They are intercellular messenger

15 **(b)**

Calcitonin or Thyrocalcitonin (TCT)

(i) Regulate calcium level in blood plasma by inhibiting bone breakdown
(ii) It is non-ionised and secreted by para follicular cell of thyroid gland
(iii) Being hypocalcemic and hypophosphatemic. It checks excess plasma Ca^{2+} and phosphate by decreasing mobilization of Ca^{2+} from bones

16 **(d)**

All of the above.

The atrial wall of our heart secretes a 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

17 **(a)**

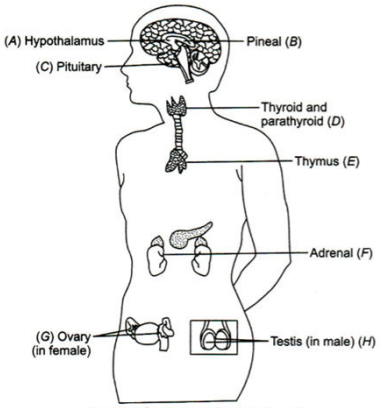
Cretinism is caused hyposecretion of thyroxine during the growth years. It is called **childhood hypothyroidism**. The two important symptoms are dwarfism and mental retardation.

18 **(a)**

Hypersecration of growth hormone (STH, somatotrophic hormone) during adulthood causes acromegaly.

19 **(b)**

The endocrine glands and hormone producing diffused tissues/cells located in different part of our body constitute the endocrine system, pituitary, pineal, thyroid, adrenal, pancreas, parathyroid, thymus and gonads (testis in male and ovary females) are organised endocrine bodies in our body



Location of endocrine glands in human

20 **(d)**

ADH (antidiuretic hormone) or vasopressin hormone is produced by hypothalamic neurosecretory cells and released into posterior pituitary gland. Diabetes insipidus is a disorder, which develops due to inability of person to secrete ADH.

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