

Topic :- Chemical Coordination and Integration

- 1 (d)
Androgen regulate the development, maturation and functions of the male accessory sex organs like epididymis, vas deferens, seminal vesicles, prostate gland, etc. These hormones stimulate muscular growth, growth of facial and axillary hair, aggressiveness, low pitch of voice, etc. Androgens play a major stimulatory role in process of spermatogenesis (formation of spermatozoa)
- 2 (c)
Secretion of progesterone from corpus luteum, is stimulated by luteinizing hormone (LH) of anterior pituitary.
- 3 (c)
Adrenaline (epinephrine) and noredrenaline (norepinephrine) are catecholamines hormones which are secreted from adrenal medulla part of adrenal gland. As adrenal gland is divided into-adrenal cortex and adrenal medulla. These hormones are protienaceous in nature and derived from amino acids tyrosine. Thus, injury to adrenal cortex will not affect the secretion of adrenaline.
- 4 (a)
Hormones are non-nutrient chemicals which act ass intercellular messengers and are produced in trace amounts
- 5 (a)
Insulin receptors are **extrinsic proteins** these are complex of two α and two β - subunits held together by disulphide bond.
- 6 (a)
Pancreas is the Second Largest Endocrine Gland

Type of cells in islets of Langerhans	Hormones
α - cells	Glucagon
β - cells	Insulin
γ - cells	Gastrin
δ - cells	Somatostatin

f-cells	Pancreatic polypeptides
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- 7 **(b)**
GIP (Gastro Inhibitory Polypeptide) inhibits gastric acid secretion and stimulates insulin release
- 8 **(c)**
A-2, B-trachea, C-isthmus
- 9 **(b)**
The hormones which are proteinaceous in nature generally can't pass through the cell membrane. So, they generate the secondary messenger like (Ca^{2+} , IP_3) which regulate the further changes in target cell
- 10 **(a)**
Insulin hormone regulates carbohydrate metabolism. Sexual reproductive system does not apparently involve it.
- 11 **(d)**
Estrogen produces wide ranging actions such as stimulation of growth and activities of female secondary sex organs, development of growing ovarian follicle, appearance of female secondary sex characters (*e.g.*, high pitch voice, etc.), mammary glands development. Estrogen also regulate the female sexual behavior
- 12 **(b)**
Oxytocin stimulates growth of mammary glands in human adult.
- 13 **(a)**
Parathormone secreted by parathyroid gland regulates the calcium and phosphate balance between the blood and the other tissues. It increases the plasma Ca^{2+} represses plasma phosphate and decreases Ca^{2+} excretion by the kidney.
- 14 **(b)**
There are bunch of hormones, neuropeptides and neurotransmitters that affect gastrointestinal function. The GI (gastrointestinal) endocrine system diffuses and its endocrine cells are distributed differentially in the mucosal epithelium along the length of digestive tract. Gastrointestinal hormones are proteinaceous in nature
- 15 **(c)**
Glucagon and epinephrine hormone are protein in nature. They produces the secondary messenger for their action

- 16 **(a)**
Cortisol or hydrocortisone is the principal glucocorticoid hormone of many mammals including humans. It is secreted from zona fasciculata layer of adrenal cortex. It regulates the glucose metabolism and promotes gluconeogenesis, especially during starvation and raises blood pressure.
- 17 **(b)**
A-Prolactin, B-Oxytocin
- 19 **(a)**
Endocrine glands (ductless glands) or gland of internal secretion have no ducts and their secretion get absorbed into the immediate surrounding blood circulation to reach the specific organ to initiate a particular metabolic change.
- 20 **(c)**
Pheromone are chemicals used for communication amongst individual of same species. Also known as ectohormones/sex attractants/semi chemicals. Pheromones involve a specific response in other members like recognition, warning and attraction

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

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