

Chapter-11
CHEMICAL COORDINATION AND INTEGRATION

Each question carry one score

1. Observe the first pair of words and write a suitable word for the second
 - a) Insulin : Hypoglycemic hormone
.....: Hyperglycemic hormone
 - b) TCT : Hypocalcemic Hormone
..... :Hypercalcemic hormoe
 - c) Over secretion of growth Hormone : Gigantism
Lower secretion of growth hormone:.....
 - d) Parathyroid gland: Four in number
Adrenal gland :.....in Number
 - e) Releasing Hormone: GnRH
Inhibitory Hormone :.....
 - f) Milk synthesizing hormone :Prolactin
Milk ejecting hormone :.....
 - g) Pregnancy Hormone : Progesterone
Delivery Hormone:.....
 - h) FSH: Growth of ovarian follicle
LH:.....
 - i) Growing ovarian follicle: Estrogen
.....:Progesterone
 - j) Hormone of Heart : ANF
Hormone of kidney.....
2. Complete the following sentence using appropriate words
 - a).....Hormone controls diurnal (24hour)Rhythm
 - b) Insulin controls.....level of blood
3. The secretion of PTH is regulated by the
 - a) circulating levels of calcium ions.
 - b) circulating levels of potasium ions.
 - c) circulating levels of Iron
 - d) circulating levels of Glucose
4. Mary is about to face an interview. But during the first five minutes before the interview she experiences sweating, increased rate of heart beat, respiration, etc. Which hormone is responsible for her restlessness?
 - (a) Estrogen and progesterone
 - (b) Oxytocin and vasopressin
 - (c) Adrenaline and noradrenaline

(d) Insulin and glucagon

5. Complete the chart showing hormone and Hormonal disease

Diseases	Causes
Dwarfism	Low secretion of growth hormone
a) _____	Over-secretion of growth hormone
Goitre	Deficiency of iodine
Diabetes mellitus	b) _____

6. Write the function of FSH in male and female? Name the source of FSH and LH
7. Which hormone helps in
 - a) Increasing blood calcium level
 - b) Lowering blood glucose level
8. Which of the following hormones is not secreted by anterior pituitary?
 - a) Growth hormone (GH)
 - b) Follicle stimulating hormone (FSH)
 - c) Oxytocin (OT)
 - d) Adrenocorticotrophic hormone (ACTH)
9. A hormone responsible for normal sleep-wake cycle is
 - (a) Epinephrine (b) Gastrin
 - (c) Melatonin (d) Insulin
10. Leydig cells produce a group of hormones called
 - (a) Androgens (b) Estrogens
 - (c) Aldosterone (d) Gonadotropins.
11. Corpus luteum secretes a
 - (a) Prolactin (b) Progesterone
 - (c) Aldosterone (d) Testosterone
12. Prolonged hyperglycemia leads to a complex disorder called which is associated with loss of glucose through urine and formation of harmful compounds known as ketone bodies
13. Diabetic patients are successfully treated withhormone

Each question carry two score

14. There are many endocrine glands in human body. Name the glands which is absent in male and the one absent in female

15. George comes on a vacation to India from US. The long journey disturbs his biological system and he suffers from jet lag. What is the cause of his discomfort?

Ans: George comes on a vacation to India from US. The long journey disturbs his biological system and he suffers from jet lag. It is due to the disturbance in diurnal rhythm. Melatonin plays a very important role in the regulation of a 24-hour (diurnal) rhythm of our body. For example, it helps in maintaining the normal rhythms of sleep-wake cycle, body temperature

16. Name the Hormone

- a) It stimulates the process of bone resorption (dissolution/ demineralisation)
- b) It is rapidly secreted in response to stress of any kind and during emergency situations
- c) It regulate 24-hour (diurnal) rhythm of our body
- d) It acts mainly on hepatocytes and adipocytes (cells of adipose tissue), and enhances cellular glucose uptake and utilisation.

17. Name the only hormone secreted by pars intermedia of the pituitary gland.

18. What is the role-played by luteinizing hormones in males and females respectively?

19. What is erythropoiesis? Which hormone stimulates it?

20. Match the following

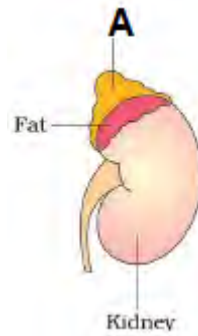
Column A		Column B	
A.	Epinephrine	(i)	Stimulates in muscle growth
B.	Testosterone	(ii)	Decrease in blood pressure
C.	Glucagon	(iii)	Decrease in liver glycogen content
D.	Atrial natriuretic factor	(iv)	Increases heart beat

21. Answer the following

a)Name the bony cavity in which pituitary gland is located

b)List any three hormones secreted by pituitary gland

22. a)Identify the gland marked as 'A'



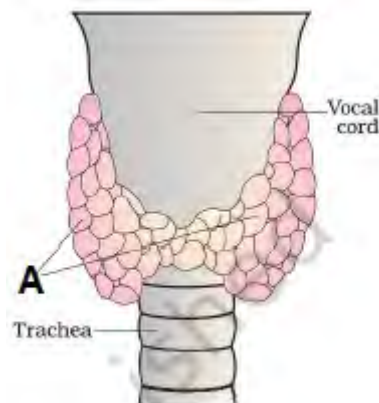
b)What are the two types in the gland ?

c)Which hormone is secreted by the centrally located tissue

23. Match the following

A.	Pineal	(i)	Epinephrine
B.	Thyroid	(ii)	Melatonin
c:	Ovary	(iii)	Estrogen
D.	Adrenal medulla	(iv)	Tetraiodothyronine

24. a) Identify the gland labeled as A



b)Write any two hormone secreted by it

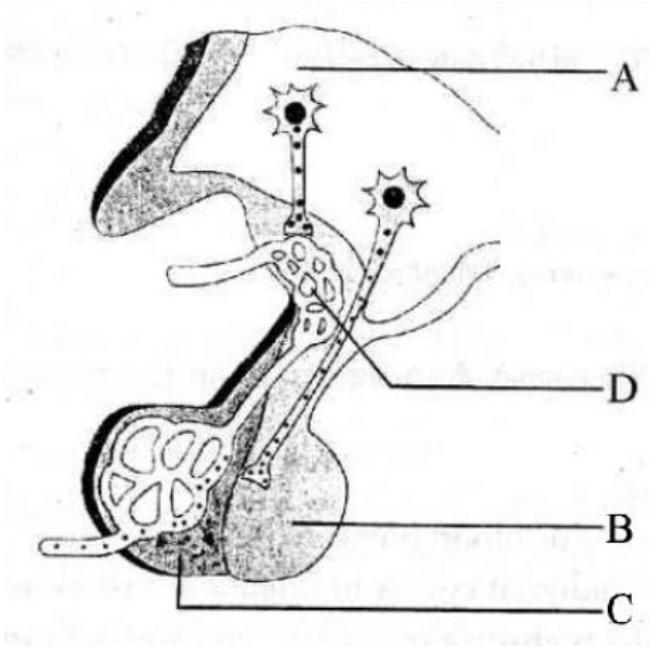
c)Write any one function of that hormone

25. 'Adrenal medulla is the centrally located tissue in the adrenal gland, where as adrenal cortex is located outside.'

a)Which hormones are secreted by Adrenal Medulla?

b)What is the function of adrenal medullary Hormone?

26. Identify the picture and label the parts A, B, C, D.



27. State whether the following statements are true/false. If false, correct it.

- (a) ADH prevents diuresis.
- (b) ANF causes the increase of blood pressure.
- (c) Angiotensin-I activate adrenal cortex to release aldosterone.
- (d) Aldosterone causes the reabsorption of Na⁺ and water from the distal part of renal tubule

28. Following are the hormones-produced by tissues other than endocrine glands. Write the where it is produced and mention the functions of each

- (a) Atrial Natriuretic factor
- (b) Erythropoietin

29. Anitha saw a poisonous snake on her way to school, she was frightened and her heart and breathing rate increased :

- (a) Name the hormones which are dominant at that time in her blood.
- (b) Which endocrine gland produce the hormone ?
- (c) To which organ this endocrine gland is attached?

30. Functions of certain hormones are given below. Identify the hormone.

- (a) Regulation of the basal metabolic rate
- (b) Lowers blood sugar
- (c) Support pregnancy and act on mammary gland

d)Emergency Hormone

31. Blood glucose homeostasis in blood is thus maintained jointly by the two –insulin and Glucagons

- a) Name the gland which secrete this Hormone
- b) How these hormones regulate Blood glucose level

32. Expand the following hormones :

- a) TSH b) ACTH c) ANF d) FSH

33. Differentiate between

- a) Diabetes insipidus and diabetes mellitus
- b) Releasing hormone and inhibitory hormone

34. Expand

- a) GnRH b) LH c) FSH d) ACTH e) PRL

35. Name the hormones whose deficiency is responsible for the following :

- a) Dwarfism b) diabetes mellitus
- c) Diuresis d) Acromegaly

36. The posterior pituitary is under the direct neural regulation of the hypothalamus, evaluate this statement

37. Classify the given hormones in the table

**Prolactin, Oxytocin,
Leutinising hormone, Vasopressin**

Released from adenohypophysis	Released from neurohypophysis
-	-
-	-

38. Complete the table

Endocrine gland	Hormone	Function
HeartA.....	Decrease Blood pressure
Pancreas	InsulinB.....
.....C.....	Erythropoietin	Stimulate erthropoiesis
HypothalamusD.....	Delivery Hormone

39. Like insulin and Glucagon, PTH and calcitonin are antagonistic in their action in maintaining Blood calcium level. Substantiate your answer?
40. Write any two examples for the following
 a)Hormones which control blood sugar level
 b)Hormones which control blood Calcium level
41. Match column B and C with column A

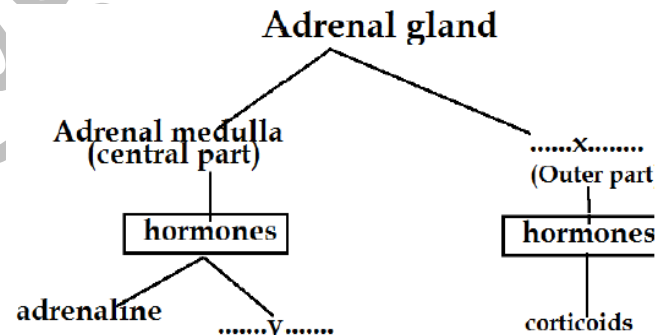
Each question carry three score

44. Complete the table given below by using appropriate terms

Gland	Hormone	Function
	TCT	Lower Blood calcium level
Pineal Gland		Sleep-Wake cycle
Pancreas		Increase blood sugar level
	Adrenaline and Nor adrenaline	Produced during emergency situation
	Androgen	Helps in spermatogenesis
Hypothalamus	ADH/Vasopressin	

A	B	C
Thyroid തൈരോയ്ഡ്	Insulin ഇൻസുലിൻ	Weak Immunity വീക്ക് ഇമ്മ്യൂണിറ്റി
Pituitary പിറ്റ്യൂട്ടറി	Thymosin തൈമോസിൻ	Gigantism ജൈജാളിസം
Pancreas പാൻക്രിയാസ്	Growth hormone ഗ്രോത്ത് ഹോർമോൺ	Diabetes mellitus ഡയബറ്റസ് മെലിറ്റസ്
Thymus തൈമസ്	Thyroxine തൈരോക്സിൻ	Goitre ഗോയിറ്റർ

45. Observe the following branching tree diagram



42. Complete the following table?

Hormone ഹോർമോൺ	Endocrine gland അന്ധ്രസ്രാവി ഗ്രന്ഥി	Function ഫർമം
A.....	Ovary ഓവറി	Hormone supports pregnancy ഗർഭാവസ്ഥയെ സഹായിക്കുന്ന ഹോർമോൺ
Thyroxine തൈരോക്സിൻ	B.....	Hormone regulates BMR BMR നെ നിയന്ത്രിക്കുന്ന ഹോർമോൺ
Adrenaline അഡ്രിനാലിൻ	C.....	Emergency hormone എമർജൻസി ഹോർമോൺ
D.....	Pancreas പാൻക്രിയാസ്	Hyperglycemic hormone ഹൈപ്പർഗ്ലൈസെമിക് ഹോർമോൺ

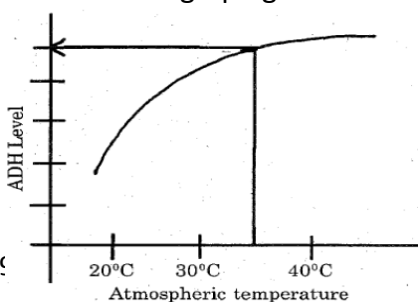
- a)Complete the representation by filling X and Y?
 b)Adrenal medullary hormones are called 'Hormones of fight or flight' why ?

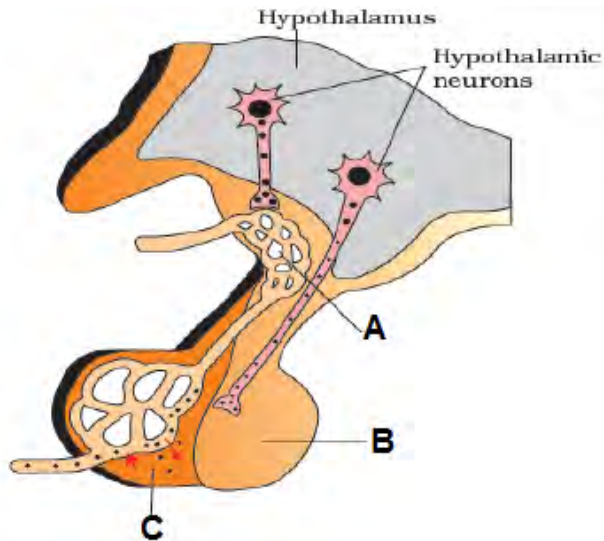
46. Like PTH and calcitonin ,insulin and Glucagon, are antagonistic in their action in maintaining Blood sugar level. Substantiate your answer?

47. Match the following

A Hormone	B Endocrine gland	C Principal function
1) Thyroxin	i) Adrenal gland	a) Contraction of smooth muscles
2) Oxytocin	ii) Thymus gland	b) Stimulates ovulation
	(ii) Pituitary gland	c) Regulates basal metabolic rate
	iv) Thyroid gland	d) Increases calcium level in the blood

43. The output of urine increase in cold days while decreased in hot and sunny days. Can you give the reason for this phenomenon as realized from the graph given below ?





b) Which hormones are synthesized in Hypothalamus and stored and secreted from 'B'?

c) Write any three hormones secreted by 'A'.



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