



# BIOLOGY

## BOOKS - MAXIMUM PUBLICATION

### CHEMICAL COORDINATION & INTEGRATION

#### Example

1. Listed below are the hormones of anterior pituitary origin. Tick the wrong entry.

A. Growth hormone

B. Follicle stimulating hormone

C. Oxytocin

D. Adrenocorticotrophic hormone

**Answer:**



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2. 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

**Answer:**



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3. The steroid responsible for balance of water and electrolytes in our body is

A. Insulin

B. Melatonin

C. Testosterone

D. Aldosterone

**Answer:**



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4. Name the birth hormone.



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5. A slow runner runs exceptionally fast when a dog chases him. Name the hormone involved in this situation



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6. Pars intermedia produce ..... hormone.

(GH, PRL, TSH, MSH)



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7. The excessive secretion of thyroxine hormone is followed by the enlargement of the thyroid glands. Name the disease occurs due to this.



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8. Thymosin is responsible for

A. Raising the blood sugar level

B. Raising the blood calcium level

C. Increased production of T lymphocytes

D. Decrease in blood RBC

**Answer:**



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**9.** In the mechanism of action of a protein hormone, one of the second messengers is

A. Cyclic AMP

B. Insulin

C. T3

D. Gastrin

**Answer:**



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**10.** Note the relationship between first two words and suggest a suitable word for fourth place.

a) Alpha cell : Glucagon - Beta cell: .....



b) Glucocorticoids : Cortisol -

Mineralocorticoids : .....



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**11.** Expand the following.

ACTH



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**12.** The excessive secretion of thyroxine hormone is followed by the enlargement of

the thyroid glands. Name the disease occurs due to this.



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**13. Match the following.**

A	B
a) Hyperglycemic hormone	Progesterone
b) Pregnancy hormone	Somatostatin
c) Inhibiting hormone	Glucagon
d) Emergency hormone	



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**14.** Functions of certain hormones are given below. Identify the hormones.

a) Regulation of BMR.

b) Differentiation of 'T' cells

c) Stimulate gluconeogenesis, lipolysis and proteolysis.

d) Support pregnancy and act on mammary gland and stimulate milk secretion.



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**15.** Give example of

a) Hyper calcaemic hormone.

b) Hyperglycemic hormone



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**16.** Name the hormone that regulate each of the following.

a) Storage of glucose as glycogen.

b) Sodium Potassium metabolism.

c) Basal Metabolic Rate.

d) Urinary elimination of water.



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**17.** The destruction of adrenal cortex leads to the low production of both glucocorticoids and mineralocorticoids.

a) Name the disease occurs due to this.

b) Give the symptoms of this disease.



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**18.** It is necessary to include iodised salt in our diet. Do you agree with this statement? Justify your answer.

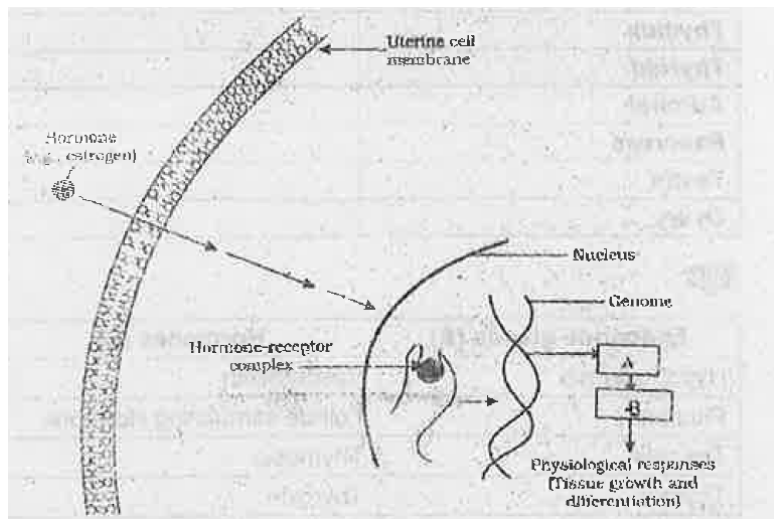


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**19.** Diagrammatic representation of the mechanism of action of a steroid hormone is shown here.

a) Label A & B. b) Name any two protein

hormones.



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20. Match the following.

Hypothalamus	Melatonin
Pineal gland	Glucagon
Pancreas	Glucocorticoids
Adrenal gland	Oxytocin
	Relaxin



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21. 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?



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**22.** Read column A and using the terms given in bracket fill column B.

(Progesterone, Testosterone, Glucagon,  
Glucocorticoids, Prolactin, Vasopressin,  
Thymosin, Adrenaline, Follicle Stimulating

hormone)

<b>Endocrine glands (A)</b>	<b>Hormones (B)</b>
<b>Hypothalamus</b>	
<b>Pituitary</b>	
<b>Thymus</b>	
<b>Thyroid</b>	
<b>Adrenal</b>	
<b>Pancreas</b>	
<b>Testis</b>	
<b>Ovary</b>	



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**23. Match the following.**

<b>A</b>	<b>B</b>
a) Pineal gland	emergency hormone
b) Hypothyroidism	immune system
c) Thymus	melatonin
d) Adrenal gland	cretinism



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**24.** A boy witnessed an accident on his way to school.

Following changes occurred in him.

(Increased heart beat, profuse sweating, pupils dilated, shivering, pale face, increased respiration)

a) Name the hormone responsible for these changes?

b) Name the gland which secretes this hormone?



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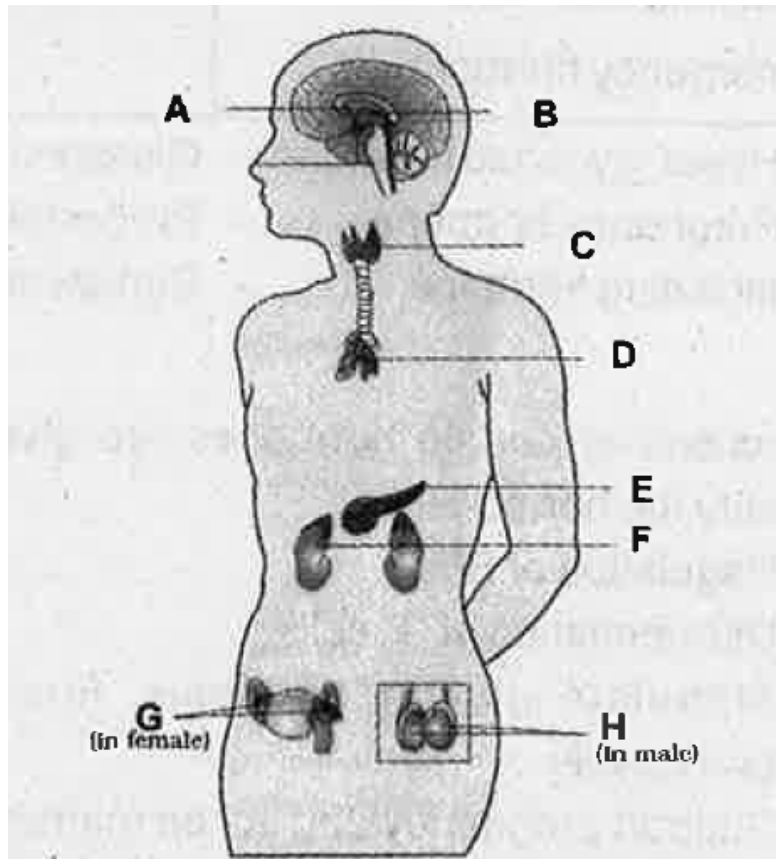
**25.** After delivery milk ejection starts in human females. It is due to the hormonal interaction. Name the hormones involved in this process.



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**26.** Diagram shows the location of the various endocrine glands in human body. Identify the

labelled parts.



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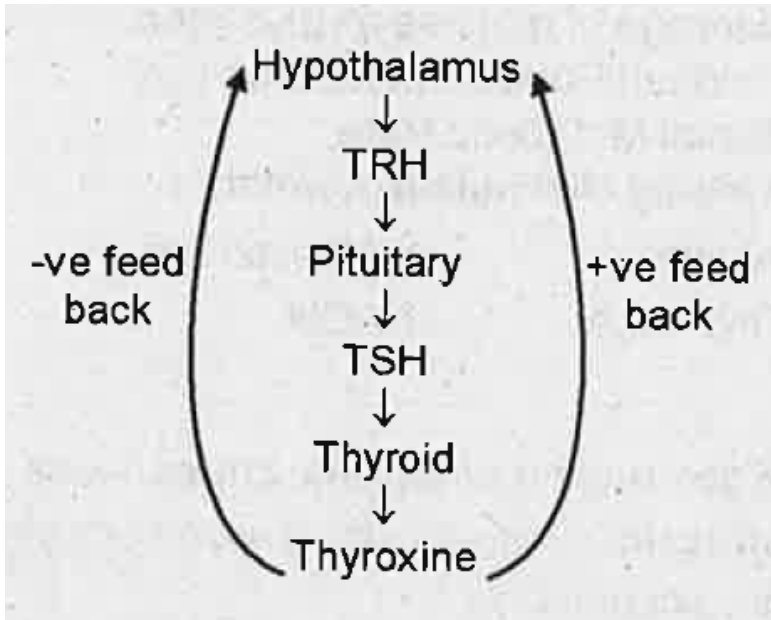
27. Name a hormone that has the following action and give the source of the hormone.

Regulate blood sugar level - causes it to fall



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28. Comment on the following flow chart.



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29. Note the relationship and suggest a suitable word in the gap.

a) Exocrine: ducted, Endocrine: .....

b) Adenohypophysis: Growth hormone,

Neurohypophysis : .....

c) Glucocorticoid: Cortisol, Mineralocorticoid:

.....

d) Alpha cells: Glucagon, Beta cells: .....

e) Thymus: Infantile gland, Thymosin: .....

f) Diabetes mellitus: Insulin, Diabetes insipidus

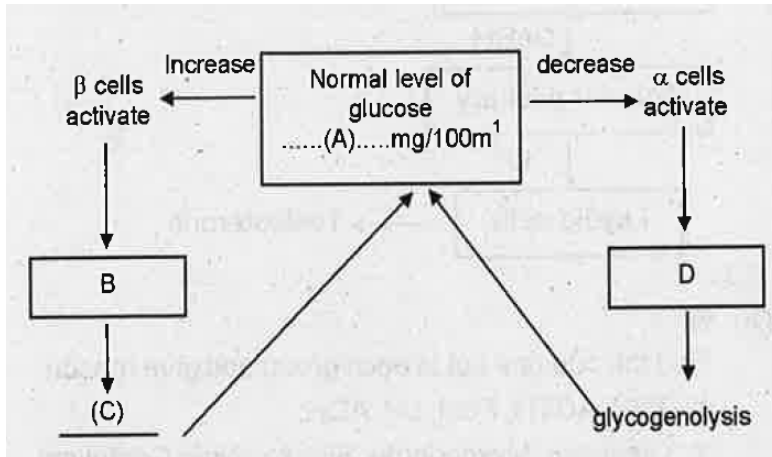
: .....



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### 30. Complete the concept map



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31. The male's body is stronger and rigid than female's body. Give reason.

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**32.** The sight and sound of a baby can induce secretion of a hormone in a nursing mother.

a) Name the hormone.

b) Given the functions of this hormone.

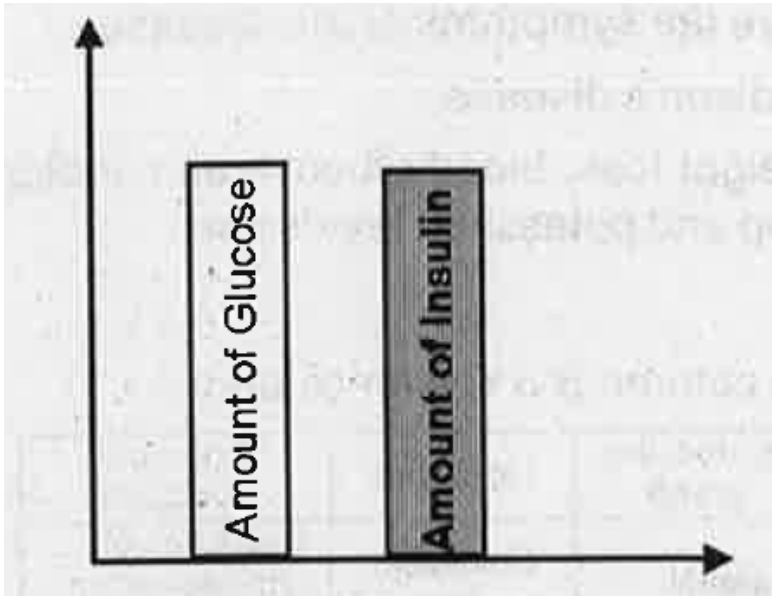


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**33.** Pancreas is found to be not functioning in a patient. How this condition will affect physiological functioning in him?



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34.

The given bar diagram shows the relative amount of glucose and insulin in a normal man. Redraw the graph to show the conditions in a diabetic patient.



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**35.** Construct a table and arrange the following items in three columns with appropriate headings:

Tetany, adenohipophysis, Insulin, Myxoedema, Parathyroid, Dwarfism, Growth hormone, Thyroid, Diabetes mellitus, Pancreas, Thyroxin, PTH.



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**36.** A person with a swelling in the thyroid gland consults a doctor.

a) What type of disease does this person have?

b) As a student of biology, what remedy would you suggest for these?



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**37.** The destruction of adrenal cortex leads to the low production of both glucocorticoids

and mineralocorticoids.

a) Name the disease occurs due to this.

b) Give the symptoms of this disease.



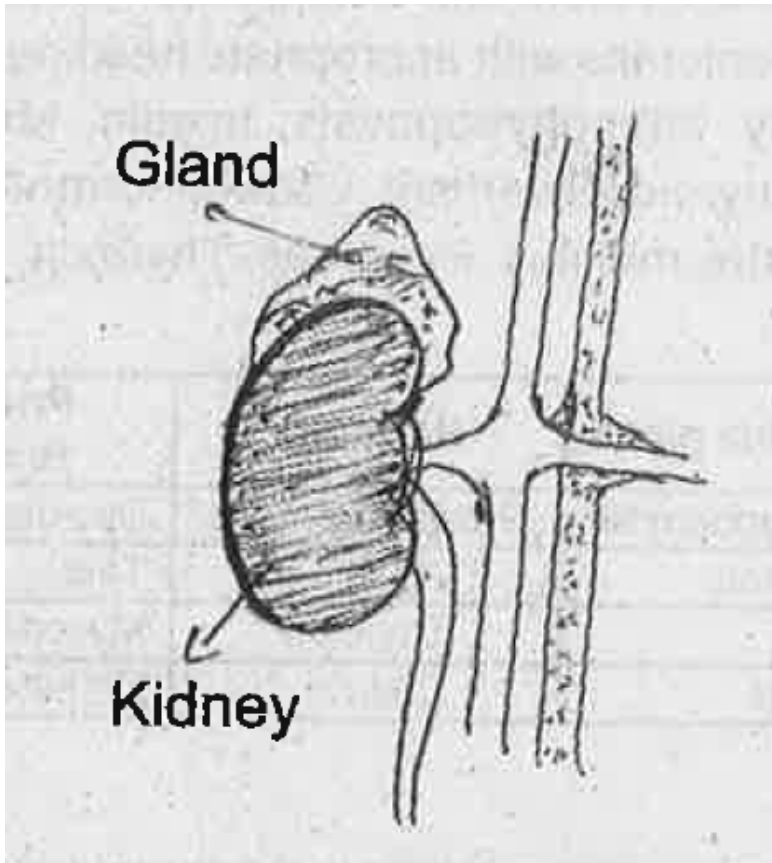
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38. Match column B & C with column A.

Endocrine gland	Hormone	Principal function
Adrenal gland	Calcitonin	Reduction of urine secretion
	Prolactin	Contraction of Uterine muscles
Pituitary	Cortisol	Regulate Calcium level of blood
	Vasopressin	Promote liver glycogen-formation



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39.

a) Identify the gland in the picture.

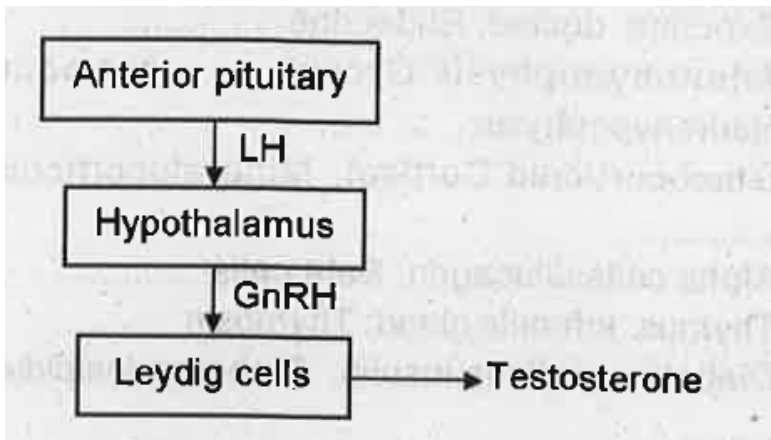
b) How many layers are present in this gland?

Name them and write the hormones from these layers.



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40. a) A flowchart showing the process of production of testosterone, is given below.





b) Redraw the chart correctly if there are any mistakes.



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**41.** Find the odd one out in each group and give reason.

a) TSH, ACTH, FSH, LH, ADH

b) Cretinism, Myxoedema, Simple goitre, Gigantism

c) Thyrotropin releasing hormone,  
Corticotropin releasing hormone,

Gonadotropin releasing hormone,  
Somatostatin.

d) Adenohypophysis, Neurohypophysis,  
Hypothalamus, pars intermedia.



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**42.** Progesterone is called as pregnancy hormone. Do you agree? Give reason.



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43. Fill in the blanks:

Hormones	Target gland
a) Hypothalamic hormones	.....
b) Thyrotrophin (TSH)	.....
c) Corticotrophin (ACTH)	.....
d) Gonadotrophins(LH, FSH)	.....



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44. Can you identify us?

Clue - We are two diseases, one is related to sugar in urine. Our first name is same and second name is different. Distinguish us.



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**45.** When checked the blood sugar of a person, it is found to be 220 mg/100ml of blood, Is this a disorder?

a) If this is a disorder, name the disorder.

b) Which hormonal imbalance is responsible for this condition?

c) Can you suggest any remedial measures to get rid of?



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**46.** During Sunbath the body colour is changed.

a) Why the body colour is changed?

b) Do you think any hormone is responsible for this? If so, name the hormone.

c) Explain the action of hormone.



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**47.** A pregnant lady was admitted to a hospital for delivery, but delivery is delayed more than the expected time. The doctor prescribed

to take a hormone injection.

Name the hormone



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**48.** Expand the following.

i) AMP

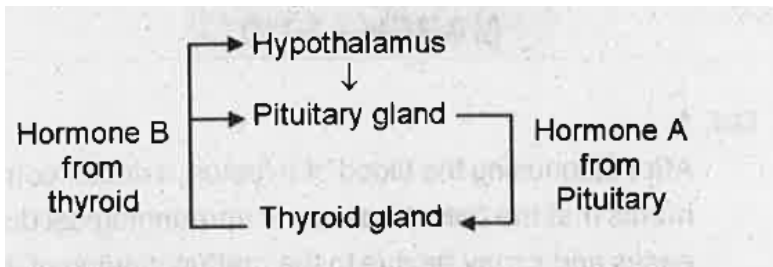
ii) ANF

iii) ICZN



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**49.** The diagram shows the interaction between the hypothalamus, pituitary and thyroid glands. Arrow indicates the probable pathway of direct influence. Answer the following questions.



- Name the hormones A and B.
- State the effect of hormone A on the thyroid.
- State the effect of hormone B on the

hypothalamus.

d) Describe the control on pituitary by the hypothalamus in this situation.



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50. Copy the table and fill in the blanks using appropriate words.

Gland	Hormone	Name of Disease	Symptoms
	Growth Hormone		Retarded growth
Pancreas		Diabetes Mellitus	
Testis	Testosterone		External sex characters fail to develop
Thyroid	Thyroxine		Oedema swelling of facial tissue, looks puffy





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51. After diagnosing the blood of a foetus, a doctor comments that the foetus has some immunological diseases and it may be due to the malfunctioning of an endocrine gland.

a) Name the gland.

b) Which are the hormones produced by this gland ?

c) What are the main functions of these hormones ?



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52. Draw a flow chart on the mechanism of hormone action.

Generates cyclipAMP, FSH release, Biochemical response, Response I, Binds with membrane receptor, Ovarian growth



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53. Match column B and with column A.

A	B	C
Thyroid	Melatonin	Weak immunity
Pituitary	Insulin	ANF
Pancreas	Thymosin	Gigantism
Thymus	Growth hormone	Diabetes Mellitus
	Thyroxine	Goitre
	Progesterone	Marasmus



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54. Analyse the facts given in three columns, find the relationship and fill the blanks.

Thymus	a) .....	Differentiation of T <sub>H</sub> - Lymphocytes
b) .....	Adrenaline	Emergency Hormone
Kidney	Erythropoietin	c) .....
Pancreas	d) .....	Decrease blood glucose level



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55. Thymus gland is found to be not functioning in a 6-year old boy. How will this condition affect the immune system of the boy?



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56. Fill the table appropriately.

Hormones	Site of production	Function
CCK tract	Gastrointestinal	a) .....
Erythropoietin	b) .....	RBC formation
c) .....	Heart	Reduced BP
PTH	d) .....	Increased blood $\text{Ca}^{2+}$



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57. Complete the chart showing hormone and hormonal Diseases

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



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58. Complete the following sentence using appropriate words.

a) ..... hormone controls the diurnal (24

hour) rhythm.

b) Insulin controls ..... level of blood.

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59. Complete the following table.

<b>Hormone</b> ഹോർമോൺ	<b>Endocrine gland</b> അന്തഃസ്രാവി ഗ്രന്ഥി	<b>Function</b> ധർമ്മം
...A...  <b>Thyroxine</b> തൈറോക്സിൻ	<b>Ovary</b> ഓവറി	<b>Hormone supports pregnancy</b> സഹായിക്കുന്ന ഹോർമോൺ
<b>Thyroxine</b> തൈറോക്സിൻ	...B...	<b>Hormone regulates BMR</b> BMR നെ നിയന്ത്രിക്കുന്ന ഹോർമോൺ
<b>Adrenaline</b> അഡ്രിനാലിൻ	...C...	<b>Emergency hormone</b> ഏമർജൻസിഹോർമോൺ
.....D.....	<b>Pancreas</b> പാൻക്രിയാസ്	<b>Hyperglycemic hormone</b> ഹൈപ്പർഗ്ലൈസെമിക് ഹോർമോൺ



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60. Match columns B and C with Column A

A	B	C
Thyroid തൈറോയ്ഡ്	Insulin ഇൻസുലിൻ	Weak Immunity വീക്ക് ഇമ്മ്യൂണിറ്റി
Pituitary പിറ്റ്യൂട്ടറി	Thymosin തൈമോസിൻ	Gigantism ജൈജാന്തിസം
Pancreas പാൻക്രിയാസ്	Growth hormone ഗ്രോത്ത് ഹോർമോൺ	Diabetes mellitus ഡയബറ്റിസ് മെലിറ്റസ്
Thymus തൈമസ്	Thyroxine തൈറോക്സിൻ	Goitre ഗോയിറ്റർ



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**61.** Where do you find the following structures in human body?

a) Cochlea

b) Neurotransmitters



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**62.** Write any two examples for the following.

a) Hormones which control blood-sugar level

b) Hormones which control sexual development





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### 63. Complete the Table.

Endocrine gland അന്തഃസ്രാവി ഗ്രന്ഥി	Hormone ഹോർമോൺ	Functions ധർമ്മങ്ങൾ
Heart ഹൃദയം	.....(A).....	Decrease blood pressure രക്തസമ്മർദ്ദം കുറയുന്നു
Pancreas ആന്തേയഗ്രന്ഥി	Insulin ഇൻസുലിൻ	.....(B).....
.....(C).....	Erythropoietin എരിത്രോപോയിൻ	Stimulate erythropoiesis എരിത്രോപോയിൻ ത്വരിതപ്പെടുത്തുന്നു
Thymus തൈമസ്	.....(D).....	Gives immunity രോഗപ്രതിരോധശേഷി നൽകുന്നു



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64. Which hormonal deficiency is responsible for the following?

a) Diabetes mellitus

b) Goitre

c) Cretinism



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**65.** Endemic goitre is a state of

A. increased thyroid function

B. normal thyroid function

C. decreased thyroid function

D. moderate thyroid function

**Answer:**



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**66.** Name the hormone that stimulates the secretion of gastric juice.

A. Rennin

B. enterokinase

C. Enterogastrone

D. gastrin

**Answer:**



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**67.** Islets of Langerhans are found in

- A. anterior pituitary
- B. kidney cortex
- C. spleen
- D. endocrine pancreas

**Answer:**



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68. The hormone responsible response flight, fright and fight response is

A. adrenalin

B. thyroxin

C. ADH

D. oxytocin

**Answer:**



**69.** Foetal ejection reflex in human female is induced by

- A. pressure exerted by amniotic fluid
- B. release of oxytocin from pituitary
- C. fully developed foetus and placenta
- D. differentiation of mammary glands

**Answer:**



**70.** A health disorder that results from the deficiency of thyroxin in adults and characterized by

(i) a low metabolic rate

(ii) increase in body weight

(iii) tendency to retain water in tissues is

A. hypothyroidism

B. simple goitre

C. myxoedema

D. cretinism



**Answer:**



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**71.** Gland responsible for calcium metabolism is

A. thymus

B. thyroid

C. parathyroid

D. adrenal

**Answer:**



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**72.** Secretion is under control of neurosecretory nerve axons in

- A. pineal gland
- B. adrenal cortex
- C. anterior pituitary
- D. posterior pituitary

**Answer:**



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**73.** The smallest endocrine gland is

- A. thyroid
- B. parathyroid
- C. pituitary
- D. adrenal

**Answer:**



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74. Gigantism and acromegaly are due to

- A. hypothyroidism
- B. hyperthyroidism
- C. hypopituitarism
- D. hyperpituitarism

**Answer:**



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75. Spermatogenesis is under the regulatory influence of

A. ADH

B. FSH

C. LH

D. STH

**Answer:**



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76. Which hormone is secreted in a woman if pregnancy has occurred?

A. Oestrogen

B.

C. Luteinizing hormone

D. Chorionic gonadotrophin

**Answer:**



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77. Insulin and glucagon are transported to target organ by

A. lymph

B. blood

C. pancreatic duct

D. cystic duct

**Answer:**



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78. Neurons of people suffering from diabetes insipidus do not secrete

A. enzyme

B. steroid

C. fatty acid

D. ADH

**Answer:**



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79. If the pituitary gland of an adult rat is surgically removed, which of the following endocrine glands will be less affected?

- A. Adrenal cortex
- B. Adrenal medulla
- C. Thyroid
- D. Gonads

**Answer:**



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**80.** Oestrogen and testosterone are steroid hormones, and are most likely bind to

- A. membrane ions channels
- B. enzyme-linked membrane receptors
- C. G-protejn linked membrane receptors
- D. cytoplasmic receptors

**Answer:**



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**81.** Steroid hormones easily pass through the plasma membrane by simple diffusion because they

- A. are water soluble
- B. contain carbon and hydrogen
- C. enter through pores
- D. are lipid soluble

**Answer:**



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**82.** A hormone secreted by the endocrinal cells of duodenal mucosa which influences the release of pancreatic juice is

- A. relaxin
- B. cholecystokinin
- C. secretin
- D. progesterone

**Answer:**



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**83.** Which of the following hormones does not contain a polypeptide?

A. Prostaglandin

B. Oxytocin

C. Insulin

D. Antidiuretic hormone

**Answer:**



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