

पुस्तिका में पृष्ठों की संख्या : 32  
Number of Pages in Booklet : 32

प्रश्न-पत्र पुस्तिका संख्या /  
Question Paper Booklet No.

5203041

पुस्तिका में प्रश्नों की संख्या : 180  
No. of Questions in Booklet : 180

**SSAPEn-02**

Paper Code : 22

SUBJECT : Endocrinology

समय : 3.00 घण्टे  
Time : 3.00 Hours

परीक्षा दिनांक :- 13/08/2020

परीक्षा समय :- 9:00 To 12:00

अधिकतम अंक : 180  
Maximum Marks : 180

प्रश्न-पत्र पुस्तिका एवं उत्तर पत्रक के पेपर सील/पॉलिथीन बैग को खोलने के बाद परीक्षार्थी प्रश्न-पत्र पुस्तिका संख्या को उत्तर पत्रक पर सावधानीपूर्वक अंकित करें। इसमें किसी भी प्रकार की त्रुटि होने पर जिम्मेदारी अभ्यर्थी की होगी।

The candidate fill the Question Paper Booklet No. on Answer Sheet carefully after opening the Paper Seal / Polythene bag. Candidate himself shall be responsible for any error.

**परीक्षार्थियों के लिए निर्देश**

1. सभी प्रश्नों के उत्तर दीजिए।
2. सभी प्रश्नों के अंक समान हैं।
3. प्रत्येक प्रश्न का केवल एक ही उत्तर दीजिए।
4. एक से अधिक उत्तर देने की दशा में प्रश्न के उत्तर को गलत माना जाएगा।
5. प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं, जिन्हें क्रमशः 1, 2, 3, 4 अंकित किया गया है। अभ्यर्थी को सही उत्तर निर्दिष्ट करते हुए उनमें से केवल एक गोले अथवा बबल को उत्तर पत्रक पर नीले बॉल प्वाइंट पेन से गहरा करना है।
6. OMR उत्तर पत्रक इस परीक्षा पुस्तिका के अन्दर रखा है। जब आपको परीक्षा पुस्तिका खोलने को कहा जाए, तो उत्तर-पत्र निकाल कर ध्यान से केवल नीले बॉल प्वाइंट पेन से विवरण भरें।
7. प्रत्येक गलत उत्तर के लिए प्रश्न अंक का 1/3 भाग काटा जायेगा। गलत उत्तर से तात्पर्य अशुद्ध उत्तर अथवा किसी भी प्रश्न के एक से अधिक उत्तर से है। किसी भी प्रश्न से संबंधित गोले या बबल को खाली छोड़ना गलत उत्तर नहीं माना जायेगा।
8. मोबाइल फोन अथवा इलेक्ट्रॉनिक यंत्र का परीक्षा हॉल में प्रयोग पूर्णतया वर्जित है। यदि किसी अभ्यर्थी के पास ऐसी कोई वर्जित सामग्री मिलती है तो उसके विरुद्ध आयोग द्वारा नियमानुसार कार्यवाही की जायेगी।
9. कृपया अपना रोल नम्बर ओ.एम.आर. पत्रक पर सावधानीपूर्वक सही भरें। गलत अथवा अपूर्ण रोल नम्बर भरने पर 5 अंक कुल प्राप्तांकों में से काटे जा सकते हैं।

**चेतावनी:** अगर कोई अभ्यर्थी नकल करते पकड़ा जाता है या उसके पास से कोई अनधिकृत सामग्री पाई जाती है, तो उस अभ्यर्थी के विरुद्ध पुलिस में प्राथमिकी दर्ज कराते हुए विविध नियमों-प्रावधानों के तहत कार्यवाही की जाएगी। साथ ही विभाग ऐसे अभ्यर्थी को भविष्य में होने वाली विभाग की समस्त परीक्षाओं से विवर्जित कर सकता है।

**INSTRUCTIONS FOR CANDIDATES**

1. Answer all questions.
2. All questions carry equal marks.
3. Only one answer is to be given for each question.
4. If more than one answers are marked, it would be treated as wrong answer.
5. Each question has four alternative responses marked serially as 1, 2, 3, 4. You have to darken only one circle or bubble indicating the correct answer on the Answer Sheet using BLUE BALL POINT PEN.
6. The OMR Answer Sheet is inside this Test Booklet. When you are directed to open the Test Booklet, take out the Answer Sheet and fill in the particulars carefully with blue ball point pen only.
7. 1/3 part of the mark(s) of each question will be deducted for each wrong answer. A wrong answer means an incorrect answer or more than one answers for any question. Leaving all the relevant circles or bubbles of any question blank will not be considered as wrong answer.
8. Mobile Phone or any other electronic gadget in the examination hall is strictly prohibited. A candidate found with any of such objectionable material with him/her will be strictly dealt as per rules.
9. Please correctly fill your Roll Number in O.M.R. Sheet. 5 Marks can be deducted for filling wrong or incomplete Roll Number.

**Warning:** If a candidate is found copying or if any unauthorized material is found in his/her possession, F.I.R. would be lodged against him/her in the Police Station and he/she would liable to be prosecuted. Department may also debar him/her permanently from all future examinations.

इस परीक्षा पुस्तिका को तब तक न खोलें जब तक कहा न जाए।

Do not open this Test Booklet until you are asked to do so.



1. Hypothyroidism while affecting skeletal system can cause all EXCEPT :-

- (1) decrease of trabecular bone turnover
- (2) Increase of cortical thickness
- (3) Decrease of fracture risk
- (4) Bone mass is reduced

2. Medullary thyroid carcinoma can be associated with all EXCEPT :-

- (1) Marfanoid habitus & tall stature
- (2) Papilloedema
- (3) Intestinal ganglioneuromatosis
- (4) Parathyroid Neoplasia

3. Most characteristic alteration of islets of Langerhans in type 2 diabetes is :-

- (1) Deposition of Amyloid
- (2) Absence of Epsilon cells
- (3) B-Lymphocyte infiltration
- (4) Macrophage infiltration

4. Bronze diabetes develops because of deposition in pancreas :-

- (1) Iron
- (2) Copper
- (3) Amyloid
- (4) PP-cells

5. Insulin Gene is located on short arm of :-

- (1) Chromosome 11.
- (2) Chromosome 17.
- (3) Chromosome 16.
- (4) Chromosome 6.

6. Latent autoimmune diabetes in adults is characterised by all EXCEPT :-

- (1) Age >35 years
- (2) Can require insulin in beginning of diabetes
- (3) GAD or some other antibody must be positive
- (4) Have lower C-peptide than type 2 diabetes

7. Mutation resulting in genetic defect of  $\beta$ -cell function is all EXCEPT :-
- (1) Glucokinase
  - (2) Mitochondrial DNA
  - (3) Rabson Mardenhall syndrome
  - (4) HNF-1 $\beta$
8. Adiponectin levels are found to be reduced in :-
- (1) Obesity
  - (2) Weight loss
  - (3) Treatment with Thiazolidinediones
  - (4) Treatment with olsistat
9. All are  $\beta$  cell secretory characteristic in type 2 diabetes, EXCEPT :-
- (1) Inadequate first phase insulin secretion
  - (2) Loss of pulsatility (pulsatility) in insulin secretion
  - (3) Excessive secretion of amyloid polypeptide
  - (4) Normal ratio of proinsulin to insulin secretion
10. Following changes are seen in beta cells during evolution of type 2 diabetes, EXCEPT :-
- (1) Increased gene expression of LDH
  - (2) Increased gene expression of Pyruvate
  - (3) Decreased gene expression of GLUT-2
  - (4) Decreased gene expression of Glucokinase
11. Pre-receptor impairment in insulin action is seen in :-
- (1) Type A Syndrome
  - (2) Type B Syndrome
  - (3) Antibodies to Insulin
  - (4) Lipodystrophy
12. All of following adipokines are active in energy balance & glucose homeostasis EXCEPT :-
- (1) Leptin
  - (2) Amylin
  - (3) TNF- $\alpha$
  - (4) Visfatin

13. Adiponectin causes all EXCEPT :-

- (1) Increased insulin sensitivity
- (2) Overexpression protects against atherosclerosis
- (3) Anti-inflammatory effect
- (4) Promotes transformation of monocytes to macrophages

14. Leptin causes all EXCEPT :-

- (1) Stimulates Lipolysis
- (2) Decrease glucose metabolism
- (3) Stimulates fatty acid oxidation
- (4) Inhibit lipogenesis

15. Sleep disturbances can cause diabetes because of all EXCEPT :-

- (1) Increased cortisol
- (2) Increased Leptin
- (3) Decreased IL-6 levels
- (4) Increased Proinsulin formation

16. What is **not true** about GAD 65 antibodies ?

- (1) Increased in patients with type 1.
- (2) Higher in males than females in type 1.
- (3) GAD 65 Ab associated with lower rate of disease progression.
- (4) GAD 65 enzyme is present in cerebellum & testis also.

17. All are true about ICA 512 antibodies EXCEPT :-

- (1) Leads to development of obesity.
- (2) Are associated with younger age at onset.
- (3) If present in prediabetes, leads to rapid progression of type 1 diabetes.
- (4) More associated with type 2 fats positive for DR<sub>4</sub>-DQ<sub>8</sub>.

18. What is life time risk to type 1 diabetes in a HLA Identical Sibling ?

- (1) 6-8%
- (2) 7-9%
- (3) 34-36%
- (4) 10-16%

19. Peripheral Neuropathy can be observed in type 2 diabetes :-

- (1) At the time of diagnosis
- (2) Only after 5 years of diabetes
- (3) Only after 3 years of diabetes
- (4) Only after 7 years of diabetes

20. All are characteristics of Fibrocalcific Pancreatic diabetes EXCEPT :-

- (1) Malnutrition
- (2) Dietary toxins
- (3) No Risk of Pancreatic cancer
- (4) Rapid evolution of disease

21. Insulin with longest duration of action is :-

- (1) Insulin glulisine
- (2) Insulin Degludec
- (3) Insulin Determir
- (4) Insulin Glargine

22. Following all can affect HbA1C EXCEPT :-

- (1) Anaemia
- (2) Pregnancy
- (3) Renal failure
- (4) Obesity

23. Which of the following is necessary for secretion of chylomicrons from intestinal cells ?

- (1) Apolipoprotein-C
- (2) Apolipoprotein-B-48
- (3) Apolipoprotein-E
- (4) Apolipoprotein-D

24. Which of the following activates Lipoprotein lipase in skeletal muscle & adipose tissue ?

- (1) Apoprotein C-II
- (2) Apoprotein C-III
- (3) HDL Cholesterol
- (4) Apolipoprotein B-48

25. Most frequent form of quantitative dyslipemia in diabetes is :-
- (1) Low HDL
  - (2) High HDL
  - (3) Increased triglycerides
  - (4) High LP(a)
26. Which of the following lipid metabolism changes is not seen in diabetes ?
- (1) Increased proportion of LDL-3 particles.
  - (2) Increased concentration of LP(a).
  - (3) HDL is associated with selective reduction of Apo A<sub>1</sub>.
  - (4) Diabetics have greater glycation of LDL particles.
27. Dyslipidemia can be caused by all, EXCEPT :-
- (1) Hypothyroidism
  - (2) Nephrotic Syndrome
  - (3) Alcoholism
  - (4) Irritable bowel syndrome
28. Fibrates can cause all EXCEPT :-
- (1) Increase fatty acid oxidation
  - (2) Increase LPL
  - (3) Decreased cholesterol synthesis
  - (4) Increase triglyceride hydrolysis
29. Average deficit of K<sup>+</sup> (potassium) in DKA is :-
- (1) 7-10 m eq/kg
  - (2) 3-5 m eq/kg
  - (3) 0-1 m eq/kg
  - (4) 12-15 m eq/kg
30. Which is not an essential component of hyperglycemic hyperosmolar coma ?
- (1) B-Sugar > 700 mg/dL
  - (2) pH less than 7.2
  - (3) S. Bicarbonates more than 15 m eq/L.
  - (4) S. Ketones negative in 1 : 4 dilution

31. All of following are involved in development of microvascular complication in diabetics EXCEPT :-

- (1) GHBP
- (2) Fibroblast growth factor
- (3) IGF-1
- (4) Neuroblastic tumor factor

32. All can lead to microvascular complications of diabetes EXCEPT :-

- (1) Increased polyol pathway
- (2) Increased hexosamine pathway
- (3) Decreased Lipase activity
- (4) Activation of PKC isoform

33. POMC (Pro-opiomelanocortin) a precursor of ACTH synthesized within anterior pituitary, also transcribed in following tissues EXCEPT :-

- (1) Pancreas
- (2) Liver
- (3) Kidneys
- (4) Placenta

34. Which of the following is true about ACTH secretion :-

- (1) Average ACTH pulse frequency is higher in normal adult woman than men.
- (2) Circadian rhythm is independent of both day-night and sleep-wake patterns.
- (3) ACTH secretion is in a pulsatile manner with circadian rhythm level highest on awakening and decline throughout the day.
- (4) Food ingestion inhibit ACTH secretion.

35. Which of the following is **true** for adrenal specific markers in a patient with 21  $\alpha$  hydroxylase deficiency CAH ?

- (1) 11- $\beta$  Hydroxy androstenedione
- (2) 11 Ketotestosterone
- (3) 11  $\beta$  Hydroxytestosterone
- (4) All of the above

36. Which of the following is **true** about action of Glucocorticoids ?

- (1) Decreases Growth hormone
- (2) Decreases weight
- (3) Decreases Gluconeogenesis
- (4) Increases TSH release



37. Which of the following can be the cause of Pseudo-Cushing ?
- (1) Alcohol
  - (2) Depression
  - (3) Obesity
  - (4) All of above
38. Which of the following drugs are being used in medical management of Cushing's syndrome EXCEPT :-
- (1) Mitotane
  - (2) Ketoconazole
  - (3) Modafivil
  - (4) Metyrapone
39. Trial of triple A syndrome/Allgrove syndrome include all EXCEPT :-
- (1) ACTH resistance
  - (2) Acalculia
  - (3) Alacrima
  - (4) Aclasia
40. A 50 yr old female was incidentally detected to have a 2 cm mass in left adrenal gland. Which of the following can be most common cause ?
- (1) Adrenocortical CA
  - (2) Adrenal metastases
  - (3) Adrenocortical Adenoma
  - (4) Adrenal Hamartoma
41. Following are true about MEN 2A syndrome EXCEPT :-
- (1) Autosomal dominant mode of Inheritance
  - (2) Medullary thyroid cancer
  - (3) Secondary Hyperparathyroidism
  - (4) Prevalence is 1 in 2,00,000 live births
42. Genetic testing should be considered in patients with following EXCEPT :-
- (1) Family history of pheochromocytoma
  - (2) Paraglioma
  - (3) Bilateral adrenal pheochromocytoma
  - (4) Unilateral pheochromocytoma above 45 years of age



43. A 16 year old female presented with sudden onset headache, palpitations, flushing and chest tightness. On examination her BP was 190/130 with tall stature, joint laxity and mucosal neuromas. Which of the following gene mutation may be associated with her clinical profile ?

- (1) MENIN
- (2) RET Proto-oncogene
- (3) NFI
- (4) VHL tumor suppressor gene

44. Which of the following is not a feature of 21  $\alpha$  Hydroxylase deficiency in a newborn baby with ambiguous genitalia ?

- (1) Hypertension
- (2) Raised plasma 17  $\alpha$  Hydroxyprogesterone level
- (3) Hypoglycaemia
- (4) Hyponatremia

45. Which of the following is true for adrenal dependent causes of hypertension ?

- (1) 11  $\beta$  hydroxylase deficiency
- (2) 17  $\alpha$  hydroxylase deficiency
- (3) Cushing's syndrome
- (4) All of the above

46. Which of the following is **not true** about VHL syndrome ?

- (1) Autosomal dominant mode of transmission.
- (2) Mutation in VHL located on Chr 10q 11.2.
- (3) Manifest benign/malignant neoplasm like pheochromocytoma / paraganglioma / Hemangioblastoma & Retinal angioma
- (4) Average age of detection of pheochromocytoma is 20 to 29 years.

47. Which of clinical / laboratory feature does not correlate with adrenal crisis ?

- (1) Hypoglycemia
- (2) Hypotension / shock
- (3) Hyponatremia
- (4) Hypothermia



48. Which of the following enzyme catalyzes the rate limiting step in catecholamine synthesis ?
- (1) Tyrosine kinase
  - (2) Catechol-O-Methyl transferase
  - (3) Dopa-decarboxylase
  - (4) Mono-amine oxidase
49. Which of the following drug is not used in pre-operative management of hypertension due to pheochromocytoma ?
- (1) Prozac
  - (2) Labetalol
  - (3) Losartan
  - (4) Metyrosine
50. Which of the following drug is safe to induce anesthesia in a patient to be operated for pheochromocytoma ?
- (1) Fentanyl
  - (2) Morphine
  - (3) Propranolol
  - (4) Ketamine
51. Which of the following is not included in Carney Triad ?
- (1) Gastrointestinal stromal tumor
  - (2) Retinal Angiomas
  - (3) Pulmonary Chondroma
  - (4) Paraganglioma
52. 11  $\beta$  Hydroxylase deficiency arises because of mutation in :-
- (1) 11  $\beta$  Hydroxylase (CYP 11 B1) gene
  - (2) Cytochrome P-450 gene
  - (3) 11  $\beta$  Hydroxylase (CYP 11 C1) gene
  - (4) 11  $\beta$  Hydroxylase (CYP 11 E1) gene
53. All can be cause for monogenic cause of obesity EXCEPT :-
- (1) Single minded Homolog 1 (SIM1) gene mutation
  - (2) Prohormone convertase 1 gene mutation
  - (3) Adiponectin SX-4 mutation
  - (4) Src Homology 2B1 (SH<sub>2</sub> B<sub>1</sub>) deficiency

54. All can be secreted from adipocyte EXCEPT :-

- (1) Angiotensinogen
- (2) Interleukin 12
- (3) Interleukin 6
- (4) Complement C<sub>3</sub>

55. Following are characteristics of Brown adipose tissue EXCEPT :-

- (1) It contains multilocular fat vacuoles
- (2) Large Mitochondria
- (3) Intense innervation by sympathetic nerves.
- (4) Human BAT cannot be activated by cold exposure.

56. Phentermine an antiobesity drug is a/an :-

- (1) Sympathomimetic agent
- (2) Parasympathetic agent
- (3) Also acts on GLP-I Receptor
- (4) Antagonist of serotonin release

57. Leptin is the product of :-

- (1) 8bc gene
- (2) db gene
- (3) ob gene
- (4) NP4 gene

58. Activity of 1  $\alpha$  Hydroxylase is inhibited by following except :

- (1) Calcium
- (2) 1, 2, 5 Dihydroxy Vitamin D
- (3) FGF-23
- (4) PTH

59. Which of the following hormones do not act via GPCR ?

- (1) TSH
- (2) Vit D receptor
- (3) MSH
- (4) ACTH

60. Which of the following is/are peptide/protein hormone ?

- (1) IGF
- (2) ANP
- (3) ADH
- (4) All of the above



61. Which of the following is **not** derived from amino acid ?

- (1) Calcitonin
- (2) Dopamine
- (3) Serotonin
- (4) Norepinephrine

62. What is the mode of inheritance of familial hypocalciuric hypercalcemia ?

- (1) AR
- (2) XLR
- (3) AD
- (4) XLD

63. Which of the following gene mutation cause McCune Albright syndrome ?

- (1) FGFR 1
- (2) RET
- (3) GNAS 1
- (4) NFE

64. Which of the following hormones act through nuclear receptor ?

- (1) Aldosterone
- (2) Thyroid hormone
- (3) Cortisol
- (4) All of the above

65. Which of the following is **not true** about type B insulin resistance ?

- (1) Present at age less than 18 years of age.
- (2) Often present with autoimmune conditions like Vitiligo, Alopecia & arthritis.
- (3) Presence of antibody directed against insulin receptor.
- (4) Level of antibody correlates with severity disease.

66. "Hook effect" have been extensively reported in following hormone :-

- (1) Prolactin
- (2) Calcitonin
- (3) hCG
- (4) All of above

67. Which of the following type of diabetes do not follow Mendelian pattern of inheritance ?

- (1) MODY
- (2) Type 2 diabetes mellitus
- (3) Neonatal diabetes
- (4) Congenital Lipodystrophies

68. Which of the following hormones has identical  $\alpha$ -subunit of FSH ?

- (1) TSH
- (2) LH
- (3) hCG
- (4) All of above

69. Which of the following is the most prevalent endocrinopathy across the world ?

- (1) Diabetes insipidus
- (2) Thyroid diseases
- (3) Adrenal diseases
- (4) Diabetes Mellitus

70. The most potent natural ligand for Vit D receptor is :-

- (1) 1, 25 dihydroxy Vit D
- (2) 25 Hydroxy Vit D
- (3) 1, 24 dihydroxy Vit D
- (4) 24, 25 dihydroxy Vit D

71. Which of the following is not a fat soluble Vitamin ?

- (1) Vitamin A
- (2) Vitamin D
- (3) Vitamin C
- (4) Vitamin K

72. Paracrine cells secrete their contents :-

- (1) Directly into the blood stream
- (2) Into extracellular space to act on neighboring cells
- (3) Locally to affect their own function
- (4) Into the lumen of ductal system



73. Post ganglionic sympathetic neurons secrete which neurotransmitter at sweat glands ?

- (1) Acetyl Choline
- (2) Dopamine
- (3) Nor-Adrenaline
- (4) Serotonin

74. Kallman syndrome is due to defective migration of :-

- (1) Somatostatin secreting neurons and is associated with Hemianopia.
- (2) GnRH secreting neurons and is associated with hemianopia.
- (3) Somatostatin secreting neurons and is associated with anosmia.
- (4) GnRH secreting neurons and associated with anosmia.

75. Dorsal invagination of Rathke's pouch gives rise to :-

- (1) Anterior and posterior lobes to pituitary
- (2) Second pharyngeal arch
- (3) Anterior and intermediate lobes of pituitary
- (4) Tuber cinerium

76. Median eminence part of pituitary gland is richly supplied by :-

- (1) Superior hypophyseal branch of ICA.
- (2) Inferior hypophyseal branch of ICA.
- (3) Anterior hypophyseal branch of ECA.
- (4) Posterior hypophyseal branch of ECA.

77. Which of the following is not a polypeptide hormone ?

- (1) PRL
- (2) TSH
- (3) POMC
- (4) GH

78. All are causes of hyper-prolactinaemia EXCEPT :-

- (1) Phenothiazine
- (2) Methyl dopa
- (3) Metoclopramide
- (4) Amlodipine

79. Most abundant hormone in adult pituitary gland is :-

- (1) GH
- (2) Prolactin
- (3) Gonadotropins
- (4) ACTH

80. Confirmatory test for acromegaly is :-

- (1) Insulin induced GH suppression.
- (2) Glucose induced GH suppression.
- (3) Clonidine induced GH stimulation.
- (4) Propranolol induced GH suppression.

81. False about Carney's complex :-

- (1) Cardiac myxomas
- (2) Related to chromosome 17
- (3) Autosomal recessive
- (4) Pituitary adenoma with spotty skin pigmentation

82. Neuroepithelial cell lining of which ventricle give rise to PVN and SON of :-

- (1) Third ventricle
- (2) Lateral ventricle
- (3) Fourth ventricle
- (4) Both (1) & (2)

83. The major inhibitory and stimulatory neurotransmitters in neurohypophyses are respectively :-

- (1) Dopamine and serotonin
- (2) Serotonin and dopamine
- (3) Glutamate and GABA
- (4) GABA and Glutamate

84. Vasopressin and oxytocin hormones are :-

- (1) Decapeptides
- (2) Nonapeptides
- (3) Octapeptides
- (4) Heptapeptides



85. Vasopressin receptors responsible for stimulating ACTH secretion from anterior pituitary and for increasing factor VIII and Von Willibrand factor production are :-

- (1) V1a and V2
- (2) V2 and V1a
- (3) V1b and V2
- (4) V2 and V1b

86. Oxytocinase (vasopressinase) in pregnant females is produced by :-

- (1) Placenta
- (2) Endometrium
- (3) Maternal pituitary
- (4) Fetal pituitary

87. Choose the best lab value for urinary osmolarity and serum osmolarity in a patient with central diabetes insipidus :-

- (1) 50 and 300
- (2) 500 and 260
- (3) 50 and 260
- (4) 50 and 100

88. SIADH is associated with the following drug :-

- (1) Erythromycin
- (2) 5-Fu
- (3) Methotrexate
- (4) Vincristine

89. Which drug is not used in SIADH ?

- (1) Fludrocortisone
- (2) Desmopressin
- (3) Demeclocycline
- (4) Hypertonic saline

90. Which of the following is true for diabetes insipidus ?

- (1) Urine osmolality  $> 300$
- (2) Plasma osmolality  $< 280$
- (3) Water deprivation test
- (4) Plasma osmolality, should be  $> 300$  prior to water deprivation

91. SIADH is seen in all EXCEPT :-

- (1) Interstitial nephritis
- (2) Lung abscess
- (3) Vinca alkaloids
- (4) Bronchial asthma



92. All can cause SIADH EXCEPT :-

- (1) AIDS
- (2) Viral Pneumonia
- (3) Positive pressure ventilation
- (4) Testicular Tumor

93. The following can be used for treatment of hyponatremia EXCEPT :-

- (1) Urea
- (2) Losartan
- (3) Conivaptin
- (4) Furosemide with NaCl

94. Secondary hyperparathyroidism is seen in all EXCEPT :-

- (1) Rickets
- (2) Osteomalacia
- (3) Renal failure
- (4) Osteoporosis

95. Ruger Jersey spine is seen in :-

- (1) Multiple myeloma
- (2) TB-Spine
- (3) CRF
- (4) Ankylosing spondylitis

96. Which of the following is true about pseudohypoparathyroidism type 1.

- (1) Decreased formation of cAMP is observed.
- (2) Caused by gain of function inherited mutation in Gs alfa subunit.
- (3) Decreased formation of inositol triphosphate is observed.
- (4) Decreased formation of cGMP is observed.

97. All of the following are used to treat acute hypercalcaemia EXCEPT :-

- (1) Hydration with saline
- (2) Gallium nitrate
- (3) Calcitonin
- (4) Bisphosphonate

98. All of the following are seen in rickets EXCEPT :-

- (1) Bow legs
- (2) Pot belly
- (3) Gunstock deformity
- (4) Cranio-tabes

99. The most common manifestation of osteoporosis is :-

- (1) Compression fracture of spine
- (2) Asymptomatic detected incidentally by low calcium levels
- (3) Bowing of legs
- (4) Loss of weight

100. Pigeon breast deformity is seen in :-

- (1) Rickets
- (2) Osteoporosis
- (3) Pagets disease
- (4) Primary hyperparathyroidism

101. Indication for surgery in primary hyperparathyroidism includes :-

- (1) Bone mineral density low (T score  $< -1.5$ )
- (2) S. Calcium  $> 1$  mg/dL above upper normal limit
- (3) Urinary calcium  $< 400$  mg/day
- (4) Age above 50 years

102. Most abundant protein in bone matrix is :-

- (1) Type 2 collagen
- (2) Type 1 collagen
- (3) Type 4 collagen
- (4) Type 3 collagen

103. Which of the following medical conditions is not associated with hypercalcaemia ?

- (1) Hyperparathyroidism
- (2) William's syndrome
- (3) Sarcoidosis
- (4) Hypothyroidism

104. Which of the following is not a clinical feature of Hypercalcaemia ?

- (1) Diarrhoea
- (2) Lethargy
- (3) Polyuria
- (4) Polydipsia

105. Which of the following is not used in the treatment of severe hypercalcaemia ?

- (1) Volume Repletion
- (2) Denosumab
- (3) Thiazide diuretics
- (4) Gluco corticoids

106. All of the following genes have been found to be useful in the development of parathyroid glands :-

- (1) GCMB
- (2) GMI4
- (3) SOX 3
- (4) GATA 3

107. Which of the following is not an indication for surgery in primary hyperparathyroidism ?

- (1) Urinary calcium > 300 mg/day plus other urinary biochemical indices of stone risk.
- (2) History of fragility fracture
- (3) Young age < 50 years
- (4) Creatinine clearance < 60 ml/min and presence of renal stones.

108. Which of the following is not a clinical feature of growth hormone insensitivity ?

- (1) Infertility
- (2) Birth length may be slightly decreased
- (3) Birth weight near normal
- (4) Frontal bossing

109. Which of the following is not a feature of HESX1 maturation ?

- (1) Delayed puberty
- (2) Septo-optic-dysplasia may be seen
- (3) Midline forebrain abnormalities
- (4) Ectopic anterior pituitary

110. Which of the following syndromes is not associated with small for gestational age births ?

- (1) Russell Silver syndrome
- (2) Tietze syndrome
- (3) Rabinstein-Taybi syndrome
- (4) Sickle syndrome



111. The advantages of assaying IGBP3 concentration for screening for growth failure are all except :

- (1) IGFBP3 levels are constant throughout the day.
- (2) The immunoassay of IGFBP-3 is technically simple and does not require separation of the binding protein from IGF peptides.
- (3) IGF BP 3 levels are GH independent.
- (4) Serum IGF BP 3 levels are less dependent on nutrition than IGF-1.

112. Which of the following is not an adverse effect of growth hormone therapy ?

- (1) Osteochondrodysplasias
- (2) Scoliosis
- (3) Slipped capital femoral epiphyses
- (4) Pseudotumor cerebri

113. All are side effects seen with oxandrolone therapy EXCEPT :-

- (1) Hepatic dysfunctions
- (2) Increase in serum LDL levels
- (3) Clitorimegaly
- (4) Delayed breast development

114. Dose of clonidine to provoke GH secretion is :-

- (1) 0.5 mg/kg
- (2) 0.15 mg/kg
- (3) 0.15 mg/m<sup>2</sup>
- (4) 0.5 mg/m<sup>2</sup>

115. All of the following are causes of postnatal overgrowth leading to adult tall stature except :-

- (1) Hyperthyroidism
- (2) Klinefelter's syndrome
- (3) Testicular feminization
- (4) X44 Karyotype

116. Mutation of which gene is the most common cause of combined pituitary hormone deficiency ?

- (1) LHX 3
- (2) PITX 2
- (3) HESX 1
- (4) PROP 1

117. Rieger syndrome occurs due to mutation of :-

- (1) LHX 3
- (2) PIT X 2
- (3) HES X 1
- (4) PROP 1

118. Which of the following is not a feature of Sheehan's syndrome ?

- (1) Hyperprolactinaemia
- (2) Hypoglycemia
- (3) Hyponatremia
- (4) Weight loss

119. Which of the following statement regarding Lymphocytic Hypophysitis is false ?

- (1) Can occur after menopause
- (2) 15% cases are reported in males
- (3) Empty sella syndrome is common outcome
- (4) Diabetes insipidus is seen in 40% case

120. Most common endocrine deficit encountered in ipilimumab-Induced hypophysitis is :-

- (1) Hypothyroidism
- (2) Diabetes Insipidus
- (3) Secondary adrenal insufficiency
- (4) Hypo-prolactinemia

121. Hypertension in congenital 17- $\alpha$  hydroxylase deficiency is due to elevated levels of :-

- (1) Cortisol
- (2) 11-Deoxycorticosterone
- (3) 17-hydroxypregnanediol
- (4) 17 hydroxyprogesterone

122. The karyotype of a patient with androgen insensitivity syndrome is :-

- (1) 45 XO
- (2) 46 XX
- (3) 46 XY
- (4) XX Y



123. A baby girl presents with bilateral inguinal masses, thought to be hernias but are found to be testes. Which Karyotype do you expect ?

- (1) 46 XY
- (2) 46 XX
- (3) 47 XXY
- (4) 47 XYY

124. A 21 year old woman, with height of 163 cms presents with primary amenorrhea. She has well developed breasts with no axillary or pubic hair and no hirsutism. Most likely clinical diagnosis is :-

- (1) Turner's syndrome
- (2) Stein-Leventhal syndrome
- (3) Premature ovarian failure
- (4) Complete androgen insensitivity syndrome

125. Which of the following is seen with hypogonadotropic hypogonadism ?

- (1) Viral orchitis
- (2) Klinefelter's syndrome
- (3) Kallman syndrome
- (4) Noonan syndrome

126. Gonadectomy is a clinically advised procedure in the treatment of :-

- (1) Testicular feminization syndrome
- (2) Kallmann syndrome
- (3) Hemochromatosis
- (4) Sexual precocity

127. A patient presents with primary amenorrhea with a hypothalamic deficit. The most likely syndrome is :-

- (1) Asherman syndrome
- (2) Kallmann syndrome
- (3) Stein Leventhal syndrome
- (4) Sheehan's syndrome

128. Congenital adrenal hyperplasia due to 11  $\beta$  hydroxylase deficiency presents with all of the following symptoms EXCEPT :-

- (1) Hypokalemia
- (2) Hypertension
- (3) Virilization
- (4) Metabolic acidosis

129. Which among the following types of congenital adrenal hyperplasia is due to 21 hydroxylase deficiency ?

- (1) Salt wasting type
- (2) Simple viriling type
- (3) Non classic type
- (4) All of above

130. Which of the following is not a common adverse effect of selective phosphodiesterase inhibitors ?

- (1) Skin rash
- (2) Dyspepsia
- (3) Abnormal vision
- (4) Hearing problems

131. A child presents with antimongoloid slant, pulmonary stenosis, short stature and undescended testes. The likely diagnosis is :-

- (1) Hypoparathyroidism
- (2) Noonan syndrome
- (3) Klinefelter's syndrome
- (4) X44 sex chromosome

132. Which of the following is not a feature seen in Turner's syndrome ?

- (1) Cubitus valgus
- (2) Increased risk for breast tumors
- (3) Increased risk for colon cancer
- (4) Increased risk for IBD

133. Which of the following is not characteristic of Klinefelter syndrome ?

- (1) Occurs due to meiotic nondisjunction of sex chromosome during gametogenesis.
- (2) TESE & ICSI can lead to successful pregnancy for  $\cong$  50% men with classic Klinefelter syndrome.
- (3) Occurs during spermatogenesis in 60% of patients and during Oogenesis in 40% of patients.
- (4) There is increased risk of varicose veins in these patients.

134. Which of the following statements is correct regarding Klinefelter's syndrome ?

- (1) Decrease in both LH & testosterone
- (2) Most common cancer associated with Klinefelter syndrome is prostate cancer.
- (3) There is atrophy of Leydig cells.
- (4) It is frequently associated with MVP.

135. Which of the following statements is correct regarding Turners syndrome :-

- (1) Most common CVS defect is in tricuspid valve.
- (2) Only monosomy is compatible with life.
- (3) These patients have lower IQ than normal.
- (4) Most common cause of death is due to breast cancer.

136. Prader Willi syndrome is characterised by all EXCEPT :-

- (1) Hypoadrenalism
- (2) Short stature
- (3) Obesity
- (4) Hypomentation

137. Resistin a signaling peptide is secreted by :-

- (1) Granulosa theca cells
- (2) Islets of Langerhans
- (3) Adipocytes
- (4) Renal tubular cells

138. Tumor necrosis factor  $\alpha$  can be secreted by all EXCEPT :-

- (1) Adipocytes
- (2) Macrophages
- (3) Monocytes
- (4) Myocytes



139. Which of the following is **not** a diagnostic criteria for Insulinoma ?

- (1) Plasma glucose < 60 mg/dL
- (2) Plasma Insulin (RIA) > 6  $\mu$ u/ml
- (3) Plasma C-peptide > 200 p mol/L
- (4)  $\beta$  Hydroxybutyrate  $\leq$  2.7 n mol/L

140. Following drug is/are used in patient with insulinoma to prevent hypoglycaemia :-

- (1) Diazoxide
- (2) Somatostatin analogue octreotide
- (3) Somatostatin analogue Lantreotide
- (4) All of above

141. All are **true** about insulinoma EXCEPT :-

- (1) 80% are benign a single.
- (2) May be seen in patients with MEN1 syndrome.
- (3) 99% of sporadic tumor are seen in pancreas.
- (4) Medical therapy is treatment of choice for non-metastatic disease.

142. Which of the following is not a characteristic clinical feature of glucagonoma ?

- (1) Necrolytic Migratory erythema
- (2) Venous thrombosis
- (3) Polycythemia
- (4) Weight loss

143. Most common location of glucagonoma in pancreas is :-

- (1) Head
- (2) Tail
- (3) Body
- (4) Neck

144. Which of the following is **true** about Gastrinoma :-

- (1) Increase fasting S.Gastrin with increased basal gastric acid secretion.
- (2) Sporadic gastrinoma are usually seen as multiple nodular tumor.
- (3) I.V. provocation test with secretin causes a decrease in gastrin secretion.
- (4) In MEN1 syndrome gastrinoma appear commonly in absence of primary hyperparathyroidism.



145. Which of the following is not classical of VIP-oma ?

- (1) Watery diarrhea
- (2) Hypokalemia
- (3) Achlorhydria
- (4) Hypoglycemia

146. Medical treatment of VIPoma includes all EXCEPT :-

- (1) Somatostatin analogue
- (2) Streptozocin with 5-fluorouracil
- (3) Ketoconazole
- (4) Metoclopramide

147. All are features of Zellinger Ellison syndrome EXCEPT :-

- (1) Seizures
- (2) Abdominal pain & heart-burn
- (3) Steatorrhea
- (4) Weight loss

148. Which of the following can be marker of carcinoid syndrome ?

- (1) Urinary 5 hydroxyindol acetic acid
- (2) Chromogranin A
- (3) Neuropeptide K
- (4) All of above

149. Which of the following is not a feature of pneumocystic thyroiditis ?

- (1) Painful
- (2) Increased uptake on thyroid scan
- (3) Hyperthyroidism followed by hypothyroidism
- (4) Firm and tender

150. Which of the following is not a cause of hyponatremia in patient with HIV ?

- (1) HIV nephropathy
- (2) SIADH
- (3) HIV cardiomyopathy
- (4) Arenal insufficiency

151. Which of the following protease inhibitor (PI) is least often associated with hyperlipidemia ?

- (1) Saquinavir
- (2) Ritonavir
- (3) Atazanavir
- (4) Lopinavir

152. Following can be side effect of Megestrol (synthetic progesterone) used as appetite stimulant in HIV patients :

- (1) Hypogonadism
- (2) Adrenal insufficiency
- (3) Hypoglycemia
- (4) Both (1) and (2)

153. All are true about MEN-1 EXCEPT :-

- (1) Autosomal dominant inheritance
- (2) Mutation in MENIN gene
- (3) Estimated prevalence is 1 in 1,00,000.
- (4) Most common tumor associated is parathyroid adenoma.

154. Which of the following is not associated with MEN-1 syndrome ?

- (1) Parathyroid adenoma
- (2) Glioglastoma
- (3) Gastrinoma
- (4) Prolactinoma

155. Which of the following has associated Marfanoid habitus ?

- (1) MEN 2B/MEN 3
- (2) MEN 1
- (3) MEN 2A
- (4) MEN 4

156. Non-endocrine tumor associated with MEN 1 syndrome can be :-

- (1) Meningioma
- (2) Cutaneous Lipoma
- (3) Facial angiofibroma
- (4) All of above



157. MEN-4 syndrome is caused due to mutation in following gene :-

- (1) MENIN
- (2) RET
- (3) CDKMB
- (4) F<sub>OX</sub> P<sub>3</sub>

158. RET proto-oncogene mutation is seen in which syndrome ?

- (1) MEN 1
- (2) MEN 2
- (3) MEN 3
- (4) Both (2) & (3)

159. Following tumor are associated with MEN-4 :-

- (1) Pituitary
- (2) Sarcoma
- (3) Myxoma
- (4) All of above

160. The leading cause of death in patients with MEN-1 syndrome is :-

- (1) Hyperparathyroidism
- (2) Pancreatic NET
- (3) Pituitary tumors
- (4) Rhabdomyosarcoma

161. Which of the following agent is used to decrease/normalize plasma calcium & PTH levels in patients with MEN-1 ?

- (1) Octreotide
- (2) Calcitriol
- (3) Cinacalcet
- (4) Calcineurin inhibitors

162. The most common initial/first manifestation of MEN-2 syndrome is :-

- (1) Pheochromocytoma
- (2) Medullary carcinoma thyroid
- (3) Pituitary tumor
- (4) Parathyroid adenoma

163. Clinical triad of APS-1 (Autoimmune polyendocrinopathy syndrome) include all EXCEPT :-

- (1) Mucocutaneous candidiasis
- (2) Autoimmune hypoparathyroidism
- (3) Addison disease
- (4) Celiac disease

164. Following is not **true** about APS-1 :-

- (1) Autosomal dominant inheritance
- (2) Mutation in AIRE gene
- (3) Gene involved is located on chromosome 21
- (4) Autoantibodies against  $1F\text{N}\alpha$  &  $1F\text{N}\delta$  are present in almost all cases.

165. Which of the following is not **true** about APS-II ?

- (1) Most common in females than males.
- (2) Onset of disease in adulthood.
- (3) Less common than APS-I.
- (4) Exhibits familial aggregation.

166. Which of the following antibody testing is required for diagnosing APS-II ?

- (1) TPO
- (2) GAD
- (3) Parietal cell  $\text{H}^+/\text{K}^+$  ATPase
- (4) All of the above

167. All are true about IPEX EXCEPT :-

- (1) Mutation FOXP 3 gene
- (2) Elevated Ig E & eosinophilia
- (3) X-linked dominant mode of inheritance
- (4) Failure to thrive

168. Long standing primary hypothyroidism while affecting pituitary can cause all EXCEPT.

- (1) Diffuse thyrotroph hyperplasia
- (2) Nodular thyrotroph hyperplasia
- (3) Anterior pituitary enlargement
- (4) Posterior pituitary enlargement

169. All of transcription factors have decisive role in thyroid gland morphogenesis EXCEPT :-

- (1) TTF-1
- (2) TTF-2
- (3) Pax-8
- (4) THOX-1

170. Pendre's syndrome gene (PDS/SLC 26A4) is located on :-

- (1) Chromosome 7.
- (2) Chromosome 11.
- (3) Chromosome 12.
- (4) Chromosome 19.

171. Half life of thyroxine binding globulin is :-

- (1) 7 days
- (2) 5 days
- (3) 11 days
- (4) 3 days

172. Following of drugs inhibit de-iodination of thyroxine EXCEPT :-

- (1) Propyl thiouracil
- (2) Dexamethasone
- (3) Propranol
- (4) Neomercazole

173. Side effects of excessive iodine supplementation can be all EXCEPT :-

- (1) Iodine induced hypothyroidism
- (2) Iodine induced thyrotoxicosis
- (3) Thyroiditis
- (4) Thyroid hormone resistance

174. Amiodarone can cause all EXCEPT :-

- (1) Hypothyroidism
- (2) Iodine induced Thyrotoxicosis (Type I)
- (3) Iodine induced Thyrotoxicosis (Type II)
- (4) Thyroid Neoplasm

175. Factors can cause increased uptake on thyroid scan EXCEPT :-

- (1) Hyper-Thyrodism
- (2) Recovery phase of subacute thyroiditis
- (3) Lithium carbonate therapy
- (4) Perchlorate administration

176. Following single gene defect can cause thyroid gland dysgenesis/Agenesis EXCEPT :-

- (1) Pax 8 (AD)
- (2) TTF-1
- (3) THOX-2
- (4) TF2 (AR)

177. Graves ophthalmopathy can cause

- (1) Presbyopia
- (2) Reduced color intensity
- (3) Myopia
- (4) Cataract

178. Thyrotoxicosis can cause :-

- (1) Hypophosphatemia
- (2) Hypocalciuria
- (3) Hypocalcemia
- (4) Hyper magnesemia

179. Methimazole therapy for treatment of hyperthyroidism can cause :-

- (1) Cholestatic hepatitis
- (2) Toxic hepatitis
- (3) Decreased GFR
- (4) Peripheral Neuropathy

180. All can cause hyposecretion of TSH EXCEPT :-

- (1) Mutation in PROP-1 gene
- (2) Mutation in Pit-1 gene
- (3) Mutation in TSH- $\beta$  gene
- (4) Mutation in TBG- $\alpha$  gene

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