OPSC Assistant Professor

Previous Year Paper

2019 (Super Special)

Endocrinology

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

T. B. C. : AP(END) – 3-18/19

Test Booklet Series

A

TEST BOOKLET

ASSISTANT PROFESSOR (SUPER SPECIALITY)

ENDOCRINOLOGY

Sl. No. 1000

Time Allowed : 3 Hours

Maximum Marks : 200

: INSTRUCTIONS TO CANDIDATES :

1. IMMEDIATELY AFTER COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET **DOES NOT** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET OF SAME SERIES ISSUED TO YOU.
2. ENCODE CLEARLY THE TEST BOOKLET SERIES **A, B, C** OR **D**, AS THE CASE MAY BE, IN THE APPROPRIATE PLACE IN THE ANSWER SHEET USING BALL POINT PEN (BLUE OR BLACK).
3. You have to enter your **Roll No.** on the Test Booklet in the Box provided alongside. **DO NOT** write *anything else* on the Test Booklet.
4. **YOU ARE REQUIRED TO FILL UP & DARKEN ROLL NO., TEST BOOKLET / QUESTION BOOKLET SERIES IN THE ANSWER SHEET AS WELL AS FILL UP TEST BOOKLET / QUESTION BOOKLET SERIES AND SERIAL NO. AND ANSWER SHEET SERIAL NO. IN THE ATTENDANCE SHEET CAREFULLY. WRONGLY FILLED UP ANSWER SHEETS ARE LIABLE FOR REJECTION AT THE RISK OF THE CANDIDATE.**
5. This Test Booklet contains **200** items (questions). Each item (question) comprises four responses (answers). You have to select the correct response (answer) which you want to mark (darken) on the Answer Sheet. In case, you feel that there is more than one correct response (answer), you should mark (darken) the response (answer) which you consider the best. In any case, choose **ONLY ONE** response (answer) for each item (question).
6. You have to mark (darken) all your responses (answers) **ONLY** on the **separate Answer Sheet** provided by **using BALL POINT PEN (BLUE OR BLACK)**. See instructions in the Answer Sheet.
7. All items (questions) carry equal marks. All items (questions) are compulsory. Your total marks will depend only on the number of correct responses (answers) marked by you in the Answer Sheet. **There will be no negative marking for wrong answer.**
8. Before you proceed to mark (darken) in the Answer Sheet the responses (answers) to various items (questions) in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per the instructions sent to you with your **Admission Certificate**.
9. After you have completed filling in all your responses (answers) on the Answer Sheet and after conclusion of the examination, you should hand over to the Invigilator the *Answer Sheet* issued to you. You are allowed to take with you the candidate's copy / second page of the Answer Sheet along with the **Test Booklet**, after completion of the examination, for your reference.
10. Sheets for rough work are appended in the Test Booklet at the end.

SEAL

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1. Endocrine diseases can be categorised broadly into the following groups except :
   (A) Hormone overproduction
   (B) Hormone underproduction
   (C) Unchanged responses to hormones
   (D) Tumors of endocrine glands

2. All of the following are ways to assess endocrine function except :
   (A) Basal circulating level of hormone
   (B) Suppressed hormone level
   (C) Immunohistochemistry staining of endocrine cells
   (D) Hormone binding protein levels

3. The Positive Predictive Value (PPV) of a test is calculated as :
   (A) True positive tests / False positive tests + True positive tests
   (B) True negative tests / False negative tests + True negative tests
   (C) False positive tests / False positive tests + True positive tests
   (D) False negative tests / False negative tests + True negative tests

4. All of the following hormones act on their specific cell surface receptor except :
   (A) PTH
   (B) TRH
   (C) Aldosterone
   (D) Glucagon

5. All of the following are true about SHORT syndrome except :
   (A) Associated with growth defect
   (B) Gene involved is PIK3R1
   (C) Stiff and rigid joints present
   (D) Teething delay present

6. The nuclear receptor named FXR (farnesyl X receptor) serves to bind which endogenous ligand ?
   (A) Fatty acids
   (B) Bile acids
   (C) Oxysterols
   (D) Phospholipids

7. Enzyme involved in tissue level activation of hormones are all except :
   (A) Type 1 deiodinase
   (B) 5 alpha reductase type 2
   (C) 11 beta HSD type 2
   (D) 1 alpha hydroxylase

8. Loss of function mutations of calcium sensing receptor leads to :

(A) Bartter syndrome

(B) Familial hypocalciuric hypercalcemia

(C) Familial hypercalciuric hypocalcemia

(D) Benign idiopathic hypercalciuria

9. Which of the following statements with regards to genetics of diabetes mellitus is true ?

(A) Heritability of Type 2 diabetes mellitus is estimated to range between 40 to 80%

(B) 90% of the heritability of Type 1 diabetes mellitus was explained by haplotypes at the HLA locus

(C) About 15% of T2D-associated SNPs point to insulin secretion / beta-cell function, and 30% point to insulin resistance

(D) Individuals with neonatal diabetes cause by KCNJ11 mutations can be treated with low-dose sulfonylureas in place of insulin

10. Heritability of adult height is approximately :

(A) 20%

(B) 40%

(C) 60%

(D) 80%

11. Homozygous loss of function mutation of SHOX gene causes :

(A) Leri-Weill dyschondrosteosis

(B) Langer mesomelic dysplasia

(C) Ullrich-urner Syndrome

(D) Idiopathic short stature

12. What is correct regarding therapeutic response in children with defects in IGFALS ?

(A) Responds poorly to GH

(B) Responds well to IGF1

(C) Responds well to both

(D) Responds poorly to both

13. Syndromes of elevated LDL include all except :

(A) Familial homozygous hypercholesterolemia

(B) Familial heterozygous hypercholesterolemia

(C) Sitosterolemia

(D) LPL deficiency

14. Ultradian refers to :
    (A) Longer than a day
    (B) Less than a day
    (C) Exactly a day
    (D) About a day

15. TSH is stimulated by :
    (A) External cold exposure
    (B) Stress
    (C) Starvation
    (D) Infection

16. TRH stimulates GH secretion in all except :
    (A) Type 1 diabetes mellitus
    (B) Hypothyroidism
    (C) Pregnancy
    (D) Acromegaly

17. All of the following suppresses GH except :
    (A) Melatonin
    (B) Calcitonin
    (C) Serotonin antagonists
    (D) Somatostatin

18. The following transcription factor defect will give rise to pan hypopituitarism except :
    (A) HESX1
    (B) SOX3
    (C) PROP1
    (D) TBX19

19. Choose the wrongly matched option :
    (A) SOX2 – Anophthalmia
    (B) LHX3 – Cerebellar herniation
    (C) IGSF1 – Testicular enlargement
    (D) SIX6 – Brachio-oto-renal syndrome

20. All of the following inhibit prolactin secretion except :
    (A) VIP
    (B) Calcitonin
    (C) Endothelin 1
    (D) TGF beta 1

21. Which one of the following is not a feature of Chiari-Frommel syndrome in a non-nursing mother ?
    (A) Post partum amenorrhoea
    (B) Post partum galactorrhea
    (C) Lactational failure
    (D) Utero ovarian atrophy

22. The following statements regarding provocative GH testing are true except :
    (A) ITT is the gold standard test for proving GH deficiency
    (B) Severe GH deficiency is defined as peak GH response less than 5 mcg/L in response to hypoglycemia
    (C) ITT is contraindicated in patients with seizure disorder
    (D) ITT evaluates the integrity of the entire hypothalamo-pituitary axis

23. Which statement regarding GH therapy is false ?

(A) Starting dose in young adult women should be 0.3 mg per day

(B) GH dose titration is done using IGF1 levels maintained in the normal range for age and gender

(C) Women receiving oral estrogen supplements require higher doses of GH

(D) GH is administered as morning subcutaneous injections to mimic physiology

24. ACTH induced pigmentation occurs due to melanocyte stimulation of ACTH acting via which receptor ?

(A) MC1

(B) MC2

(C) MC3

(D) MC4

25. What percentage of functional anterior pituitary cells are comprised of gonadotroph cells ?

(A) 10 to 15%

(B) 25 to 30%

(C) 50 to 55%

(D) 75 to 80%

26. Which among the following genetic defects is associated with normosmic hypogonadotrophic hypogonadism ?

(A) FGFR1

(B) CHD7

(C) TACR3

(D) PROK2

27. Which statement regarding effect of sex steroids on gonadotropin secretion is false ?

(A) Estrogens can exert dual feedback effects on gonadotropin secretion

(B) Hypothalamic inhibition of gonadotropin releasing hormone is largely mediated by kisspeptin neurons

(C) Principal effect of progesterone is to decrese frequency of gonadotropin pulses

(D) 5 alpha reductase activity on testosterone is key to its inhibitory effect on gonadotropin secretion

28. Which of the following factors does not help in differentiating IHH from CDGP at presentation ?

(A) Cryptorchidism

(B) Short stature

(C) Micropenis

(D) Anosmia

29. Which of the following statements about L-thyroxine is true ?

(A) Molecule is converted peripherally to active rT3

(B) Molecule has a half life of 7 days

(C) Dose titration in central hypothyroidism is based on TSH levels

(D) Free T3 measurement is mandatory if patient is receiving oral estrogen suppliments

30. Which statement regarding traumatic brain injury (TBI) is incorrect ?

(A) 75% of patients with TBI are young men under 40 years of age

(B) Hypopituitarism following head trauma usually manifests within 1 year after the insult

(C) Most common endocrine seen in these patients is GH deficiency

(D) Almost all patients who develop hypopituitarism following head trauma have history of loss of consciousness

31. Pituitary hyperplasia may be seen in all except :

(A) Pregnancy

(B) Primary hypothyroidism

(C) Secondary hypothyroidism

(D) Hypothalamic gangliocytoma

32. The following measures are used to assess visual fields except :

(A) Goldmann perimetry

(B) Amsler grid

(C) Ishihara perimetry

(D) Automated quantitative perimetry

33. The following statements about ipilimumab induced hypophysitis are true except :

(A) CTLA4 is expressed in pituitary tissue

(B) Median time to onset of symptoms following drug intake is approximately 4 months

(C) Most common endocrine manifestation is diabetes insipidus

(D) Hyponatremia is reported in about 50% of patients

34. Which classification system for pituitary masses quantifies invasion of cavernous sinuses ?

(A) Knosp classification

(B) Hardy classification

(C) Liddle classification

(D) Invasive pituitary adenoma classification

35. The genetic defect associated with FIPA is :

(A) AIRE

(B) AIP

(C) AIME

(D) AIS

36. Issues that could interefere with diagnosis of giant prolactinoma include which of the following :

(A) Hook effect

(B) Stalk compression

(C) Macroprolactinaemia

(D) Heterophile antibody intereference

37. Which of the following statements regarding acromegaly is true ?

(A) Densely granulated slow growing tumours are more common in the older age group

(B) Rapidly growing sparsely granulated tumours have very little clinical features of acromegaly

(C) Acidophilic stem cell adenomas may have elevated GH, PRL and ACTH

(D) Somatotroph hyperplasia can be easily distinguished from GH cell adenoma on histology

38. For acromegaly, the mean time taken from onset of disease to diagnosis is approximately :

(A) 2 years

(B) 5 years

(C) 9 years

(D) 15 years

39. Best confirmatory test for diagnosis of acromegaly is :

(A) Random GH level > 30 mcg/L

(B) 24 hour GH monitoring not falling below 2 mcg/L

(C) Post glucose GH level > 1 mcg/L

(D) Post GHRH GH level > 1 mcg/L

40. All of the following agents have been approved for medical treatment of acromegaly except :

(A) Cabergoline

(B) Teprotumumab

(C) Pegvisomant

(D) Paseriotide

41. Which factor is the earliest and potent stimulus for release of vasopressin ?

(A) Osmolality

(B) Volume change

(C) Pressure change

(D) Thirst

42. The basal plasma vasopressin levels ranges between :

(A) 0.1 to 0.5 pg/ml

(B) 0.5 to 2 pg/ml

(C) 5 to 10 pg/ml

(D) 15 to 20 pg/ml

43. Diabetes insipidus of pregnancy occurs due to which placental enzyme ?

(A) Threonine kinase

(B) Cysteine aminopeptidase

(C) Glutathione peroxidase

(D) Serine phosphorylase

44. The posterior pituitary bright spot may be absent in what percentage of normal population ?

(A) 5%

(B) 10%

(C) 20%

(D) 40%

45. The following findings are considered essential for diagnosis of SIADH except :

(A) Plasma osmolality < 275 mOsm / kg H_2O

(B) Normal adrenal and thyroid function

(C) Urinary osmolality > 150 mOsm/kg H_2O

(D) Elevated urinary sodium

46. Recommended iodine intake during pregnancy is :

(A) 100 mcg per day

(B) 150 mcg per day

(C) 200 mcg per day

(D) 300 mcg per day

47. Which enzyme involved in thyroid hormone synthesis has been associated with transient congenital hypothyroidism ?

(A) Thyroid peroxidase

(B) Dehalogenase 1

(C) Dual oxidase 2

(D) Phospholipase C

48. The following statement regarding Allan Herndon Dudley syndrome is true :

(A) X iinked dominant inheritance

(B) Progressive flaccid paralysis

(C) Mutation in MCT1 gene

(D) Severe mental retardation

49. How much iodine does one tablet of 200 mg Amiodarone contain ?

(A) 37.5 mg

(B) 50 mg

(C) 75 mg

(D) 100 mg

50. What percentage of patients with Graves' disease will have detectable TSH receptor antibodies ?

(A) 95 to 99%

(B) 80 to 95%

(C) 75 to 80%

(D) 65 to 70%

51. The following are known risk factors for developing thyroid eye disease except :

(A) Alcohol

(B) Smoking

(C) Radioiodine

(D) Trauma

52. Which of the following features is not included in the assessment of clinical activity scoring of thyroid associated ophthalmopathy ?

(A) Pain on attempted up or down gaze

(B) Swelling of eyelids

(C) Conjunctival edema

(D) Exophthalmos (in mm)

53. The following side effects have been associated with use of methimazole except :

(A) Cardiac conduction defects

(B) Toxic psychoses

(C) ANCA positive vasculitis

(D) Cholestasis

54. Methimazole associated birth defects include all except :

(A) Aplasia cutis

(B) Omphalocoele

(C) Choanal atresia

(D) Periauricular sinuses

55. Toxic adenomas usually become functional, once it achieves a diameter greater than :

(A) 1 cm

(B) 2 cm

(C) 3 cm

(D) 4 cm

56. The pathognomic radiological feature of congenital hypothyroidism is :

(A) Epiphyseal dysgenesis

(B) Metaphyseal widening

(C) Cortical thickening of diaphysis

(D) Pseudofractures

57. Consumptive hypothyroidism occurs due to increased activity of which enzyme ?

(A) Type 1 deiodinase

(B) Type 2 deiodinase

(C) Type 3 deiodinase

(D) Type 4 deiodinase

58. The recommended initial starting dose of L thyroxine in primary hypothyroidism in adults is :

(A) 1.1 to 1.3 mcg/kg body weight

(B) 1.6 to 1.8 mcg/kg body weight

(C) 2.0 to 2.4 mcg/kg body weight

(D) 3.0 to 5.0 mcg/kg body weight

59. The best marker of adequacy of L thyroxine replacement in primary hypothyroidism is :

(A) T3

(B) T4

(C) FT4

(D) TSH

60. Drugs that may increase L thyroxine requirements are all except :

(A) Oral estrogens

(B) Phenytoin

(C) Rifampicin

(D) Metformin

61. Features suspicious for malignancy on thyroid USG include all except :

(A) Homogeneously hypoechoic

(B) Microcalcification

(C) Taller than wide appearance

(D) Spongiform appearance

62. Criteria for satisfactory specimen on FNAC :

(A) 5 groups to 10 to 15 well preserved cells

(B) 10 groups of 10 to 15 well preserved cells

(C) 5 groups of 20 to 25 well preserved cells

(D) 10 groups of 20 to 25 well preserved cells

63. Factors known to influence cause specific mortality in PTC include all except :

(A) Older age at presentation

(B) Presence of initial neck nodal metastasis

(C) Large size of primary tumour

(D) Presence of initial distant metastasis

64. Rapidly enlarging painless thyroid mass with normal TSH is most likely due to :

(A) Thyroid lymphoma

(B) Haemorrhagic cystic nodule

(C) Goitrous hypothyroidism

(D) Riedel thyroiditis

65. The tumour maker useful for follow up and monitoring of MTC is :

(A) CEA

(B) AFP

(C) LDH

(D) Tg and Anti Tg

66. Which of the following statements do not support the theory of a separate adrenal androgen stimulating hormone ?

(A) Complete cortisol suppression seen with exogenous dexamethasone administration ; paradoxical rise in DHEA

(B) Rising DHEA levels at 6 to 8 years of age during adrenarche ; no changes in cortisol secretion

(C) Cortisol secretion remains stable with increasing age ; DHEA levels decline after 40 years

(D) DHEA levels fall in anorexia nervosa ; cortisol levels are elevated

67. Elevated tetrahydrocortisone (THE) to tetrahydrocortisol (THF) ratio in urine is suggestive of which enzyme deficiency ?

(A) 5 alpha reductase

(B) 11 beta HSD 1

(C) 6 beta hydroxylase

(D) 20 oxo reductase

68. The commonest etiology for Cushing's syndrome in the first 2 years of life :

(A) Adrenal adenoma

(B) Adrenocortical carcinoma

(C) Ectopic ACTH syndrome

(D) McCune Albright syndrome

69. The following findings increase the possibility of ectopic ACTH secretion except :

(A) Morning plasma ACTH levels > 90 pg/ml

(B) Hypokalemic metabolic alkalosis

(C) Lesser than 50% suppression on HDDS

(D) Greater than 50% rise in cortisol following CRH administration

70. All of the following drugs have been used to treat Cushing's syndrome except :

(A) Metyrapone

(B) Metyrosine

(C) Mitotane

(D) Paseriotide

71. Decision regarding adequacy of replacement steroid doses in adrenal insufficiency are based on all except :

(A) Weight

(B) Blood pressure

(C) Morning plasma cortisol levels

(D) Patient well being

72. The enzyme activity present in salt wasting form of classic 21 hydroxylase deficiency is :

(A) <1%

(B) 1-5%

(C) 5-10%

(D) 20-30%

73. Drug used for prenatal steroid therapy to prevent fetal virilisation in CAH is :

(A) Hydrocortisone

(B) Prednisolone

(C) Dexamethasone

(D) Prednisone

74. Genital ambiguity of both 46XX and 46XY foetuses may be seen in :

(A) 21 hydroxylase deficiency

(B) 17 alpha hydroxylase deficiency

(C) P450 oxidoreductase deficiency

(D) P450 side chain cleavage deficiency

75. Following statement regarding adreno- cortical carcinoma is false :

(A) Women are more affected than men

(B) Most common presentation is with glucocorticoid or hormonal excess

(C) Less than 10% of ACC secrete aldosterone

(D) 5 year survival rate is less than 20%

76. A young patient with bilateral adrenal pheochromocytoma that is predominantly epinephrine secreting is likely to have :

(A) MEN 2

(B) VHL

(C) NF1

(D) SDH D mutation

77. The following features on imaging are suggestive of pheochromocytoma except :

(A) Round to oval shape with smooth margins

(B) Non-homogeneous with areas of cystic degeneration

(C) Less than 50% wash out on contrast imaging

(D) No loss of signal on out of phase MR imaging

78. Confirmatory tests for primary aldosteronism include all except :

(A) PAC/PRA ratio

(B) Oral salt loading

(C) IV saline infusion test

(D) Fludrocortisone suppression test

79. Localisation of aldosterone producing adenoma using adrenal venous sampling is recommended for those above :

(A) 20 years

(B) 25 years

(C) 30 years

(D) 35 years

80. Endocrine causes of hypertension include all except :

(A) Hypothyroidism

(B) Hypoparathyroidism

(C) Acromegaly

(D) Cushing's syndrome

81. The follicle destined to ovulate is recruited during which phase of which menstrual cycle ?

(A) Follicular phase of several preceding menstrual cycles

(B) Late luteal phase of previous menstrual cycle

(C) Follicular phase of current menstrual cycle

(D) Follicular phase of previous menstrual cycle

82. The predominant source of estrogen in post menopausal women :

(A) Ovary

(B) Skin and adipose tissue

(C) Adrenal

(D) Breast

83. Clitoromegaly is defined as clitoral length more than :

(A) 1 cm

(B) 2 cm

(C) 3 cm

(D) 4 cm

84. What level of androgens warrant further investigation to rule out virilising tumours ?

(A) Testosterone > 1 ng/ml; DHEHs > 4 mcg/ml

(B) Testosterone > 2 ng/ml; DHEHs > 8 mcg/ml

(C) Testosterone > 1 ng/ml; DHEHs > 8 mcg/ml

(D) Testosterone > 2 ng/ml; DHEHs > 4 mcg/ml

85. All of the following drugs have been used in treating hirsutism except :

(A) Spironolactone

(B) Eplerenone

(C) Finasteride

(D) Flutamide

86. AES criteria for PCOS diagnosis includes all of the following except :

(A) Clinical or biochemical hyperandrogenemia

(B) Oligo-anovulation

(C) Polycystic ovaries on imaging

(D) Elevated AMH levels

87. Incidence of multiple gestation in clomiphene citrate induced pregnancies :

(A) 2%

(B) 6%

(C) 12%

(D) 18%

88. Estrogen breakthrough bleeding classically occurs in :

(A) Menarche

(B) Monthly menstrual cycles

(C) Following bilateral oophorectomy

(D) Patients on Depo-provera

89. Severe hot flashes in post menopausal breast cancer survivors may be treated with :

(A) Estrogens

(B) Progesterone

(C) SNRI

(D) Tamoxifen

90. Following statements about raloxifene are true except :

(A) Estrogen antagonist effect on the breast

(B) Estrogen like action on the bone

(C) Estrogen like action on the endometrium

(D) Estrogen like action on lipids

91. Duration of spermatogenesis from A2 spermatogonia to release of mature spermatozoa takes about :

(A) 64 +/-4 days

(B) 74 +/-4 days

(C) 84 +/-4 days

(D) 94 +/-4 days

92. The neurotransmitter that is thought to mediate the effect of Testosterone for inguinoscrotal phase of testicular descent is :

(A) INSL3

(B) TGF beta

(C) CGRP

(D) GABA

93. Which isoform of 5 alpha reductase is predominantly found in the testes ?

(A) 5 alpha reductase Type 1

(B) 5 alpha reductase Type 2

(C) 5 alpha reductase Type 3

(D) 5 alpha reductase Type 4

94. Bioavailable testosterone comprises of :

(A) Free testosterone alone

(B) Free testosterone plus SHBG bound testosterone

(C) Free testosterone plus albumin bound testosterone

(D) Free testosterone plus SHBG bound plus albumin bound testosterone

95. All of the following features are suggestive of prepubertal onset of androgen deficiency except :

(A) Micropenis

(B) Disproportionately long arms and legs

(C) High pitched voice

(D) Gynaecomastia

96. All of the following measures may be used for the treatment of gynaecomastia except :

(A) Tamoxifen

(B) Breast irradiation

(C) Finasteride

(D) DHT gel

97. Prepubertal features of Klinefelter's syndrome are all except :

(A) Disproportionately long legs

(B) Cubitus valgus

(C) Clinodactyly

(D) Language delay and learning disabilities

98. Oral testosterone has been associated with :

(A) Peliosis hepatis

(B) Hepatocellular carcinoma

(C) Cholestasis

(D) All of these

99. What is the ideal time to monitor testosterone levels in a patient receiving testosterone gel as replacement ?

(A) Morning before application of gel after 2 weeks of daily use

(B) Anytime after application of gel after 2 weeks of daily use

(C) Morning before application of gel after 4 weeks of daily use

(D) Anytime after application of gel after 4 weeks of daily use

100. Which among the following factors need not be monitored 3 months following initiating testosterone replacement therapy in a male above 40 years ?

(A) PSA

(B) Hb

(C) Lipid profile

(D) Screening for OSA (sleep apnea)

101. Recommended weight gain during pregnancy as per IOM guidelines for an obese woman with BMI > 30 kg/m^2 is :

(A) 12 to 18 kgs

(B) 11 to 16 kgs

(C) 7 to 12 kgs

(D) 5 to 9 kgs

102. What is true regarding physiological levels of the following hormones at 10 to 12 weeks of gestation ?

(A) Elevated HCG, elevated T4, elevated TSH

(B) Elevated HCG, reduced T4, elevated TSH

(C) Elevated HCG, elevated T4, reduced TSH

(D) Reduced HCG, elevated T4, elevated TSH

103. Biological actions of human placental lactogen include all except :

(A) Enhances lipolysis

(B) Inhibits insulin secretion

(C) Worsened insulin resistance

(D) Increases IGF1 production

104. Following statements are true regarding placental growth hormone variant except :

(A) It is the major form of circulating GH at term in the mother

(B) Stimulates IGF1

(C) Inhibited by glucose

(D) Stimulated by GHRH

105. Placental hormones useful for diagnosing trisomy 18 are all except :

(A) PAPP-A

(B) HCG

(C) Inhibin A

(D) Unconjugated estriol

106. Hydrocortisone treatment during pregnancy is ineffective as the placenta degraded most of it via the action of which enzyme ?

(A) 11 beta HSD 1

(B) 11 beta HSD 2

(C) 11 beta OH 1

(D) 11 beta OH 2

107. Allgrove syndrome comprises of all these features except :

(A) Alacrimia

(B) Achalasia cardia

(C) Apraxia

(D) Adrenal insufficiency

108. In case of thyroid agenesis, the fetal brain is protected from hypothyroidism by increased activity of which enzyme ?

(A) Type 1 deiodinase

(B) Type 2 deiodinase

(C) Type 3 deiodinase

(D) Type 4 deiodinase

109. Untreated congenital hypothyroidism (thyroid agenesis) is associated with loss of _____ IQ points per month.

(A) 5 to 7

(B) 10 to 15

(C) 20 to 25

(D) 25 to 30

110. Brown adipose tissue in the neonate is predominantly located in these sites except :

(A) Fat enveloping kidneys

(B) Fat enveloping adrenals

(C) Mediastinum

(D) Buttocks

111. Phenotypic sex refers to :

(A) Presence of either testes or ovary

(B) Chromosomal pattern of XX or XY

(C) Appearance of external genitalia

(D) Presence of secondary sexual characters

112. The predominant factor involved in determining the fate of a bi-potential gonad at 6 weeks of gestation is :

(A) SRY

(B) SOX 8

(C) RSPO 1

(D) WT 1

113. Following are described as classical features of mixed gonadal dysgenesis except :

(A) Asymmetrical appearance of external genitalia

(B) Somatic features similar to Turner's syndrome

(C) Presence of hemi-uterus

(D) Ovarian follicles on histology

114. Lateral ovo-testicular DSD refers to :

(A) Ovo-testes on one side and ovary on the other

(B) Ovo-testes on one side and testes on the other

(C) Ovary on one side and testes on the other

(D) Ovo-testes on both the sides

115. Lipoid CAH occurs due to :

(A) Star deficiency

(B) 21 hydroxylase deficiency

(C) P 450 oxido reductase deficiency

(D) 3 beta HSD deficiency

116. Lower body segment is defined as :

(A) Distance from anterior superior iliac spine to floor

(B) Distance from top of pubic symphysis to floor

(C) Distance from bottom of pubic symphysis to floor

(D) Distance from posterior superior iliac spine to floor

117. Karlberg's ICP model of growth does not cover which growth phase ?

(A) Intra uterine

(B) Infancy

(C) Childhood

(D) Puberty

118. When a GHD child with severe short stature stops gaining height after initial improvement with GH therapy, the most likely genetic diagnosis is :

(A) GHD type IA

(B) GHD type IB

(C) GHD type II

(D) GHD type III

119. Fetal statural overgrowth may be seen in all except :

(A) Sotos syndrome

(B) Beckwith Wiedemann syndrome

(C) Weaver syndrome

(D) Silver Russel syndrome

120. The commonly used tool for prediction of adult height based on current height and bone age is :

(A) Greuliche and Pyle chart

(B) Tanner and Whitehouse chart

(C) Bayley and Pinneau chart

(D) Marshall and Tanner chart

121. The widely used staging mechanism for pubertal staging of both boys and girls was proposed by :

(A) Greuliche and Pyle

(B) Tanner and Whitehouse

(C) Bayley and Pinneau

(D) Marshall and Tanner

122. The neurotransmitters implicated in initiating puberty and ending juvenile pause are all except :

(A) Kisspeptin

(B) Glutamate

(C) GABA

(D) Neurokinin B

123. The peak height velocity occur how many years later in boys when compared to girls ?

(A) 1

(B) 2

(C) 3

(D) 4

124. Klinefelter's syndrome may be associated with all except :

(A) Mitral valve prolapse

(B) Mediastinal germ cell tumour

(C) Berry aneurysms

(D) Breast carcinoma

125. What percentage of central precocious puberty is likely to be idiopathic in girls ?

(A) 10%

(B) 30%

(C) 60%

(D) 95%

126. First sign of central precocious puberty in males is :

(A) Testicular enlargement

(B) Increase in penile length

(C) Appearance of axillary and pubic hair

(D) Growth spurt

127. Macro-orchidism is seen in all except :

(A) McCune Albright syndrome

(B) Primary hypothyroidism

(C) Fragile X syndrome

(D) Primary adrenal insufficiency

128. Method of detecting GH abuse in athletes :

(A) Measurement of IGF 1 levels

(B) Measurement of various GH isoforms

(C) Measurement of ALS

(D) Measurement of pro collagen

129. EPO abuse in athletes may be detected by measuring the following parameters in combination except :

(A) Serum EPO

(B) Hematocrit

(C) Soluble transferrin receptor

(D) Percentage of microcytes

130. EPO withdrawal in athletes abusing it may lead to :

(A) Worsening of erythrocytosis

(B) Neocytolysis

(C) Pulmonary thrombo-embolism

(D) Myocardial infarction

131. The one positive effect of replacement of DHEA in women seen across several studies is :

(A) Improvement in BMD

(B) Improvement in lipid profile

(C) Improvement in muscle strength

(D) Improvement in sexual function

132. The decline in GH secretion in normal adults (Somatopause) occurs at the rate of :

(A) 4% per decade

(B) 14% per decade

(C) 24% per decade

(D) 34% per decade

133. Number of amino acids in PTH molecule :

(A) 7

(B) 34

(C) 54

(D) 84

134. The relationship between serum calcium and PTH is best described as :

(A) Linear

(B) Sigmoid

(C) Curvilinear

(D) Inverse linear

135. PTH dependent reabsorption of calcium in the kidney predominantly occurs in :

(A) PCT

(B) cTAL

(C) DCT and CT

(D) All of these

136. Vitamin D toxicity from prolonged sun exposure is prevented by formation of :

(A) Lumisterol

(B) Ergosterol

(C) Cholesterol

(D) Photosterol

137. Indication for surgery in primary hyperparathyroidism include all except :

(A) Kidney stones

(B) Low BMD (T score < 2.5)

(C) Creatinine clearance less than 50 ml/min

(D) Serum calcium > 1 mg/dl above upper limit of normal

138. In MEN associated hyperparathyroidism, the decline in intra-operative PTH levels by what percentage is proof of successful removal of all hyper functioning tissue ?

(A) > 90%

(B) > 75%

(C) > 50%

(D) > 25%

139. Dosage of denosumab in initial management of severe hypercalcemia associated with malignancy :

(A) 60 mg sc once a year

(B) 60 mg sc once every 6 months

(C) 60 mg sc once every 2 months

(D) 60 mg sc once every week for a month

140. AHO phenotype is seen in all except :

(A) Pseudohypoparathyroidism type IA

(B) Pseudohypoparathyroidism type IB

(C) Pseudohypoparathyroidism type IC

(D) Pseudopseudohypoparathyroidism

141. Osteoclasts are derived from :

(A) Mesenchymal stem cells

(B) Hematopoetic progenitor cells

(C) Epidermal stem cells

(D) Lymphoid progenitor cells

142. The most common manifestation of osteoporosis is :

(A) Vertebral fractures

(B) Hip fractures

(C) Wrist fractures

(D) Shoulder fractures

143. FRAX scoring for predicting fracture risk includes all of these parameters except :

(A) Parental history of hip fracture

(B) Personal history of previous fracture

(C) History of falls

(D) Alcohol ingestion

144. Long term use of bisphosphonates may lead to :

(A) Esophageal cancer

(B) Cardiac arrhythmias

(C) Atypical femoral fractures

(D) Avascular necrosis femur

145. The anti resorptive agent that does not lead to a reduction in bone formation markers is :

(A) Denosumab

(B) Zoledronic acid

(C) Odanacatib

(D) PTH

146. Bone loss occurring in the first year after discontinuation of PTH is approximately :

(A) < 1%

(B) 3 – 4%

(C) 10 – 15%

(D) 15 – 20%

147. The anabolic agent used to treat osteoporosis that is a monoclonal antibody against sclerostin is :

(A) Teprotumumab

(B) Romosozumab

(C) Canakinumab

(D) Bezlotoxumab

148. Creatinine values that suggest adequacy of 24 hour urine collection in an adult woman is :

(A) 5 mg/kg/24 hours

(B) 10 mg/kg/24 hours

(C) 20 mg/kg/24 hours

(D) 25 mg/kg/24 hours

149. Hypocitraturia is defined as 24 hour citrate excretion less than :

(A) 120 mg/L

(B) 220 mg/L

(C) 320 mg/L

(D) 420 mg/L

150. Intra individual coefficient of variation for HbA1c is approximately :

(A) 16%

(B) 12%

(C) 6.4%

(D) <2%

151. MODY 5 results from mutation in which gene ?

(A) GCK

(B) HNF1A

(C) HNF1B

(D) HNF4A

152. Homozygous mutation of GCK gene leads to :

(A) MODY 2

(B) Permanent neonatal diabetes

(C) Transient neonatal diabetes

(D) Type 2 diabetes in adult

153. Amino acids that can stimulate insulin secretion include all except :

(A) Arginine

(B) Leucine

(C) Lysine

(D) Threonine

154. The percentage of insulin secreted under basal conditions in any 24 hour period is approximately :

(A) 10%

(B) 30%

(C) 50%

(D) 70%

155. Mice homozygous for db mutation serves as an animal model for :

(A) Leptin deficiency

(B) Leptin receptor mutation

(C) POMC mutation

(D) MC4R mutation

156. Less stringent A1c goals may not be appropriate in patients with :

(A) History of severe hypoglycemia

(B) Extensive co-morbid conditions

(C) Long life expectaney

(D) Advanced complications

157. Consistent 2 hour post prandial glucose values less than 140 mg/dl would be associated with an average HbA1c of :

(A) 5%

(B) 5.5%

(C) 6%

(D) 6.5%

158. All of the following agents have been shown to lower HbA1c more than 1% except :

(A) Metformin

(B) Nateglinide

(C) Pioglitazone

(D) Empagliflozin

159. Following statements about DPP4i are true except :

(A) Reduces A1c by 0.7%

(B) Promotes weight loss

(C) Cardiovascular safe

(D) May cause pancreatitis

160. Metformin was found to be effective in prevention of onset of diabetes in patients with :

(A) Age > 60 years

(B) BMI > 30 kg/m2

(C) FPG > 110 mg/dl

(D) FPG > 100 mg/dl

161. Antibodies useful for diagnosis of Type 1 diabetes mellitus includes all except :

(A) Anti glutamic acid decarboxylase

(B) Anti insulin auto antibodies

(C) Anti insulinoma associated antigen

(D) Anti Zinc transporter 10

162. At presentation, what percentage of patients with type 1 diabetes will have a first degree relative with type 1 diabetes ?

(A) <5%

(B) <15%

(C) <25%

(D) <35%

163. Environmental factors that have been linked to development of type 1 diabetes include all except :

(A) Congenital rubella infection

(B) Enteroviral infection

(C) Breast milk

(D) Vitamin D deficiency

164. All of the following statements regarding Hirata syndrome are true except :

(A) Associated with hypoglycemia

(B) Common offending drugs are methimazole and alpha lipoid acid

(C) Associated with HLA DR4 allele

(D) Common in Caucasians

165. The amino acid substitution done in insulin aspart is :

(A) Aspartic acid for proline in B28

(B) Aspartic acid for lysine in B28

(C) Aspartic acid for proline in B29

(D) Aspartic acid for lysine in B29

166. Euglycemic DKA is seen in patients with :

(A) Reduced oral intake

(B) Pregnancy

(C) SGLT2 inhibitors

(D) All of these

167. HCO_3 therapy is indicated in DKA in presence of :

(A) pH < 7.1

(B) Hyperkalemia with ECG changes

(C) HCO_3 concentration <10 mEq/L

(D) Serum osmolality > 350 mOsm/kg H_2O

168. Precipitating factors for DKA include :

(A) Mucormycosis

(B) Pancreatitis

(C) Pregnancy

(D) All of these

169. All of the pathways implicated in the development of hyperglycaemic complications can be activated by deficiency of which enzyme ?

(A) Superoxide dismutase

(B) Glyceraldehyde 3 phosphate dehydrogenase

(C) Glutathione peroxidase

(D) Fructose 6 phosphate amido-transferase

170. The investigation of choice to detect macular edema is :

(A) B scan

(B) FFA

(C) OCT

(D) SLE

171. Mononeuropathies of the third, fourth and sixth nerve attributable to diabetes is approximately :

(A) 4.5 to 6%

(B) 10.5 to 12%

(C) 16.5 to 18%

(D) > 20%

172. Risk of severe vision loss in eyes with high risk PDR nor undergoing photocoagulation within 2 years is :

(A) 8%

(B) 18%

(C) 28%

(D) 38%

173. Which of the following order of stages is described as Mogensen's classification for diabetic nephropathy ?

(A) Silent – Hyperfiltration – Microalbuminuria – Macroalbuminuria – Renal failure

(B) Hyperfiltration – Silent – Microalbuminuria – Macroalbuminuria – Renal failure

(C) Silent – Hyperfiltration – Macroalbuminuria – Microalbuminuria – Renal failure

(D) Hyperfiltration – Silent – Macroalbuminuria – Microalbuminuria – Renal failure

174. The increase in blood pressure associated with diabetic nephropathy starts to occur in which phase ?

(A) Silent phase

(B) Hyper-filtration phase

(C) Microalbuminuria phase

(D) Macroalbuminuria phase

175. In patients with type 2 diabetes mellitus, the slowing of nerve conduction velocity occurs at the rate of :

(A) 0.5 m/sec per year

(B) 1 m/sec per year

(C) 1.5 m/sec per year

(D) 2 m/sec per year

176. Allodynia refers to :

(A) Increased pain response to normally painful stimuli

(B) Pain provoked by a stimulus that is not normally painful

(C) Decreased pain response to normally painful stimuli

(D) No pain provoked by a stimulus that is not normally painful

177. Deep seated gnawing neuropathic pain mediated via A delta fibres could be treated with all except :

(A) Tramadol

(B) Clonidine

(C) Amitriptyline

(D) Pregabalin

178. Clonidine can be beneficial in all of the following conditions associated with diabetes except :

(A) Diabetic diarrhoea

(B) Postural hypotension

(C) Gustatory sweating

(D) Neuropathic pain

179. The beta blocker that has been shown to decrease insulin resistance is :

(A) Propranolol

(B) Metoprolol

(C) Atenolol

(D) Carvedilol

180. Which of the following factors are essential for proper healing of diabetic foot ulcer ?

(A) Ensure adequate arterial inflow

(B) Appropriate management of infection

(C) Offloading of wound to avoid repetitive pressure

(D) All of these

181. Approximate amount of glucose that can be mobilised from the stored hepatic glycogen is :

(A) 70 gms

(B) 170 gms

(C) 270 gms

(D) 370 gms

182. The second physiological defence against hypoglycemia is :

(A) Increase in glucagon secretion

(B) Increase in catecholamine secretion

(C) Increase in cortisol secretion

(D) Increase in growth hormone secretion

183. The following are well known risk factors for developing Hypoglycemia Associated Autonomic Failure (HAAF) except :

(A) Recent antecedent hypoglycemia

(B) Sleep

(C) Prior exercise

(D) Morbid obesity

184. Following a spontaneous hypoglycemia, the plasma levels that are confirmatory of hyperinsulinemic hypoglycemia are :

(A) Insulin levels > 3 micro-units/ml ; C peptide levels > 0.6 ng/ml

(B) Insulin levels > 1 micro-units/ml ; C peptide levels > 0.3 ng/ml

(C) Insulin levels > 0.6 micro-units/ml ; C peptide levels > 3 ng/ml

(D) Insulin levels > 0.3 micro-units/ml ; C peptide levels > 1 ng/ml

185. Increase in glucose values by less than 25 mg/dl in response to glucagon after fasting is seen in all except :

(A) Insulinoma

(B) Non islet cell tumour hypoglycemia

(C) Sulphonyl urea mediated hypoglycemia

(D) ACTH deficiency

186. All of the following statements regarding leptin are true except :

(A) Produced by white adipose tissue

(B) Paradoxically elevated in starvation

(C) Affects feeding behaviour and thermogenesis

(D) Contains 167 amino acids

187. The most effective strategy for significant sustained weight loss is :

(A) Lifestyle modification

(B) Gastric banding

(C) Sleeve gastrectomy

(D) RYGB

188. Monogenic causes of obesity include mutations in the following genes except :

(A) Leptin receptor

(B) Prohormone convertase 1

(C) MC4R

(D) FTO gene

189. All of the following drugs are approved for treatment of obesity except :

(A) Orlistat

(B) Phentermine

(C) Topiramate

(D) Lorcaserin

190. The target protein where ezetemibe acts is :

(A) ABCG5

(B) NPC1L1

(C) ABCG8

(D) ABCA1

196. Criteria for diagnosis of Metabolic Syndrome included all except :

(A) Waist circumference > 35 inches in men and 32 inches in women

(B) Triglycerides >/=140 mg/dl

(C) BP >/= 130/85 mmHg

(D) FPG >/=100 mg/dl

192. Clinical features of hypertriglyceridemia include all except :

(A) Xanthelasma

(B) Lipemia retinalis

(C) Eruptive xanthomas

(D) Creamy top layer on plasma

193. Tangier's disease occurs due to the deficiency of :

(A) LCAT activity

(B) ACAT activity

(C) ABCA1 transporter defect

(D) Apo A1 mutation

194. 10 mg rosuvastatin can reduce LDL cholesterol by what percentage ?

(A) 40%

(B) 46%

(C) 52%

(D) 55%

195. D cells secrete :

(A) GIP

(B) GLP 1

(C) Somatostatin

(D) Motilin

196. Cure of medullary thyroid carcinoma is suggested by :

(A) Basal calcitonin levels < 10 pg/ml

(B) Calcium stimulated calcitonin < 10 pg/ml

(C) Basal calcitonin levels < 150 pg/ml

(D) Calcium stimulated calcitonin < 150 pg/ml

197. Clinical features that are classical of APS – 1 include all except :

(A) Muco-cutaneous candidiasis

(B) Hypoparathyroidism

(C) Addison's disease

(D) Vitiligo

198. Antiretroviral drug known to cause hypophosphatemic osteomalacia :

(A) Zidovudine

(B) Tenofovir

(C) Lamivudine

(D) Efavirenz

199. Insulin tolerance test is contraindicated in :

(A) Cancer survivors

(B) Anthracycline induced cardiomyopathy

(C) ACTH deficiency

(D) Children

200. Carcinoid tumour that may be symptomatic in the absence of liver metastasis is likely to be located in the following sites except :

(A) Rectal carcinoid

(B) Bronchial carcinoid

(C) Ovarian carcinoid

(D) Duodenal carcinoid

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