

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MBBS 0323]

MARCH 2023

Sub. Code :6056

M.B.B.S. DEGREE EXAMINATION
(For the candidates admitted from the Academic Year 2019-2020)

FIRST YEAR – SUPPLEMENTARY (CBME)
PAPER II – BIOCHEMISTRY

Q.P. Code: 526056

Time: 30 Minutes

Maximum : 20 Marks

Answer All Questions

Choose one correct answer in the box provided in the Answer Script. No overwriting should be done. Choice should be given in Capital Letters.

III. Multiple Choice Questions:

(20 x 1 = 20)

- All the following are specialized products obtained from tyrosine except :
A) Dopamine B) Melanin C) Epinephrine D) Serotonin
- Type II Tyrosinemia is characterized by all except :
A) Palmar hyperkeratosis B) Corneal ulcer
C) Porphyria D) Oculocutaneous syndrome
- The histone that is not present in a nucleosome is
A) H1 B) H2A C) H2B D) H3
- The left handed helix is seen in,
A) B DNA B) Z DNA C) A DNA D) E DNA
- C2 of purine ring is donated by
A) N5, N10 methylene THFA B) N10 formyl THFA
C) N5, N10 methenyl THFA D) Carbon dioxide
- The most common error in a DNA is
A) Base Excision B) Pyrimidine dimer C) Mismatch D) Ds DNA break
- Regarding transcription true is,
A) The two strands of DNA are transcribed simultaneously
B) RNA primer is first formed
C) RNA polymerase needs the template strand in 5' to 3' direction
D) RNA polymerase synthesise the primary transcript in 5' to 3' direction
- A 56-year-old man with long-standing, poorly controlled diabetes who was hospitalized, experienced an episode of acute renal failure while in the hospital, and his creatinine level rose to 3.4 mg/dL. Creatinine, a marker of kidney function, is produced from which of the following precursors?
A) Glutamine, cysteine, and glycine B) Serine and palmityl CoA
C) Glycine and succinyl CoA D) Glycine, arginine, and SAM
- Thyroid hormones cause all except:
A) Decreases cholesterol level B) Decreases plasma glucose
C) Negative nitrogen balance D) Vitamin utilization

10. apo B 48 formation is an example of
A) Truncation of protein B) RNA editing
C) Rearrangement of glycosidic bond D) Modification by methylation
11. Stop codon:
A) UAG B) UCA C) UAC D) AUG
12. The amino acid which does not follow degeneracy of codon is,
A) Glycine B) Glutamine C) Tryptophan D) Tyrosine
13. All the following are the tools required for recombinant DNA technology except?
A) Restriction endonucleases B) Blotting C) Thermocycler D) Vector
14. A 4-year-old boy of a first-degree consanguineous couple was noted by the parents to have darkening of the urine to an almost black color when it was left standing. Which of the following is most likely to be elevated in this patient?
A) Methylmalonate B) Homogentisate C) Phenylpyruvate D) Homocysteine
15. A 42-year-old male patient undergoing radiation therapy for prostate cancer develops severe pain in the metatarsal phalangeal joint of his right big toe. Monosodiumurate crystals are detected by polarized light microscopy in fluid obtained from this joint by arthrocentesis. Uric acid crystals are present in his urine. This patient's pain is directly caused by the over production of the end product of which of the following metabolic pathways?
A) Pyrimidine degradation B) De novo purine biosynthesis.
C) Purine salvage D) Purine degradation
16. The extent of DNA synthesis in a cell could most specifically be determined by measuring the incorporation of radio labeled:
A) Phosphate B) ribose C) thymidine D) uracil
17. An infant presents with neonatal jaundice. After several weeks, the jaundice becomes more exaggerated. The patient has an enzyme deficiency that inhibits conjugation of bilirubin. Which of the following reacts with bilirubin in the conjugation reaction?
A) Vitamin C B) Iron C) Ceruloplasmin D) UDP-glucuronate
18. A 26-year-old woman meets with her family physician to discuss family planning. She is interested in starting a family soon and is looking for advice on what nutritional supplements would be beneficial during pregnancy. The physician suggests which two of the following supplements as being the most important for the health of the fetus?
A) Selenium and vitamin K B) Copper and riboflavin
C) Iron and folate D) Vitamin C and vitamin D
19. Enzymes that catalyze antioxidant reactions are the following except:
A) Glutathione peroxidase B) Glutathione reductase
C) Superoxide dismutase D) Catalase
20. A tumor-suppressor gene is best described by which one of the following?
A) A gain-of-function mutation leads to uncontrolled proliferation
B) A loss-of-function mutation leads to uncontrolled proliferation
C) When it is expressed, the gene specifically blocks the G₁/S checkpoint.
D) When it is expressed, the gene induces tumor formation.
