FINAL ANSWER KEY

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Question1:-An enzyme activity is being studied at different pH levels. At acidic pH, enzyme activity showed a sharp decrease due to protonation of an essential amino acid residue required for catalysis. Which residue is most likely involved ?

A:-Lysine

B:-Valine

C:-Arginine

D:-Histidine

Correct Answer:- Option-D

Question2:-Which cytoskeletal filament acts as the main pathway for vesicular transport within neurons ?

A:-Actin filaments

B:-Intermediate filaments

C:-Microtubules

D:-Septins

Correct Answer:- Option-C

Question3:-The difference between nephelometry and turbidimetry lies in

A:-The wavelength of light used

B:-Whether transmitted light or scattered light is measured

C:-The need for standard calibration

D:-The use of monochromators

Correct Answer:- Option-B

Question4:-When RBC is placed in a 0.3 M NaCl solution, it remains intact because

A:-0.3 M NaCl is isotonic with plasma

B:-NaCl enters freely and maintains osmotic balance

C:-Osmosis drive water into the cell

D:-The cell membrane is impermeable to water

Correct Answer:-Question Cancelled

Question5:-An enzyme catalyses a reaction with a turnover number (kcat) of 5,000 s^{-1} and a Km of 3×10^{-5} M for its substrate. At a substrate concentration of 3×10^{-4} M, what will be the approximate reaction velocity relative to V_{max} ?

A:-91% of V_{max}

B:-20% of V_{max}

C:-50% of V_{max}

D:-85% of V_{max}

Correct Answer:- Option-A

Question6:-Which parameter has the greatest impact on quantum yield in fluorometric analysis ?

A:-Temperature of the sample

B:-pH of the solvent

C:-Extent of collisional quenching

D:-Path length of cuvette

Correct Answer:- Option-C

Question7:-Under which condition does the Beer-Lambert law no longer hold true ?

A:-Monochromatic light is use

B:-Path length remains constant

C:-Low molar absorptivity

D:-Very high solute concentration

Correct Answer:- Option-D

Question8:-A patient has a deficiency in an enzyme that requires Pyridoxal Phosphate (PLP) as a coenzyme. Which class of enzyme is most likely deficient ?

A:-Transferases

B:-Oxidoreductases

C:-Ligases

D:-Lyases

Correct Answer:- Option-A

Question9:-Which isotope is most commonly used in autoradiography for detecting nucleic acids because of its high-energy β emission and suitable half-life ?

A:-^{3}H

B:-^{32}P

C:-^{14}C

D:-^{125}I

Correct Answer:- Option-B

Question10:-Which ion-selective electrode is widely used in clinical chemistry for blood sodium estimation ?

A:-Calomel eletrode

B:-Solid-state electrode

C:-Fluoride ion electrode

D:-Glass electrode

Correct Answer:- Option-D

Question11:-How does a double-beam spectrophotometer provide advantage over a single-beam spectrophotometer ?

A:-Eliminates the need for a blank solution

B:-Compensates for fluctuations in lamp intensity

C:-Allows measurement at multiple wavelengths simultaneously

D:-Requires no calibration

Correct Answer:- Option-B

Question12:-A competitive inhibitor is added to an enzyme-catalysed reaction. Which of the following is most likely to occur ?

A:-Decrease in both Km and V_{max}

B:-No Change in Km or V_{max}

C:-Increase in Km, no change in V_{max}

D:-Decrease in V_{max}, no change in Km

Correct Answer:- Option-C

Question13:-According to International Union of Biochemistry and Molecular Biology (IUBMB) classification of enzymes, which among the following is correctly matched ?

A:-Lyases - Aldolase

B:-Ligases - Hexokinase

C:-Oxidereductases - Trypsin

D:-Isomerases - Succinate dehydrogenase

Correct Answer:- Option-A

Question14:-According to Michaelis-Menten equation, which is the accurate statement regarding enzyme kinetics,

A:-Km value is the enzyme concentration at half-maximal velocity

B:-Lesser the numerical value of Km, the enzyme affinity towards substrate is also less

C:-The affinity of an enzyme towards its substrate is inversely related to the dissociation constant

D:-Km depends upon enzyme concentration

Correct Answer:- Option-C

Question15:-In which type of enzyme inhibition does the inhibitor bind only to the enzyme substrate complex ?

A:-Competitive inhibition

B:-Uncompetitive inhibition

C:-Noncompetitive inhibition

D:-Irreversible inhibition

Correct Answer:- Option-B

Question16:-Which of the following is a false statement regarding the Dixon plot ?

A:-Dixon plot is used for determining inhibition constant

B:-A plot of 1/V verses [I] yields a straight line

C:-It is employed to illustrate the comparative potency of competitive inhibitors

D:-When the enzyme has many subunits, determination of Km is invalid and so Dixon plot is employed

Correct Answer:- Option-D

Question17:-Which mode of catalysis is prominent in Pepsin ?

A:-Acid base catalysis

B:-Catalysis by strain

C:-Covalent catalysis

D:-All of the above

Correct Answer:- Option-A

Question18:-Which of the following is Dibasic monocarboxylic acid ?

A:-Glutamic acid

B:-Asparagine

C:-Aspartic acid

D:-Lysine

Correct Answer:- Option-D

Question19:-With regard to alpha helical structure of proteins, which is a false statement ?

A:-The stability primarily arises from hydrogen bonds

B:-Clusters of amphipathic helices can create channels on cell membrane

C:-They are generally right handed

D:-Proline has a strong alpha helical structure

Correct Answer:- Option-D

Question20:-Regarding cyclophilins, which is false ?

A:-Promote maturation of native proteins

B:-Provide targets for development of antiviral drugs

C:-Cause denaturation of proteins

D:-Also called as proline-cis, trans isomerases

Correct Answer:- Option-C

Question21:-The class-specific effector functions of different immunoglobulin molecules is due to

A:-Variable region

B:-Constant region

C:-Hinge region

D:-Hypervariable region

Correct Answer:- Option-B

Question22:-Proteins are separated based on their stokes radii in

A:-Ion-exchange chromatography

B:-Gel-filtration chromatography

C:-Hydrophobic interaction chromatography

D:-Affinity chromatography

Correct Answer:- Option-B

Question23:-Hutchinson-Gilford progeria syndrome is caused due to mutation in the gene that encodes

A:-Lamin

B:-Dystrophin

C:-Keratin

D:-Dynein

Correct Answer:- Option-A

Question24:-Pick the correct statement about Calnexin

A:-It is a chaperone protein

B:-Is it present in the plasma membrane

C:-It helps in aggregation of glycoproteins

D:-It recognizes specific protein sequences in the glycan chain of glycoprotein

Correct Answer:- Option-A

Question25:-Bohr effect is

A:-Binding of oxygen to one heme residue increases the affinity of remaining heme residues

B:-Shifting of chloride ions from the plasma in to RBC to maintain electrical neutrality

C:-2, 3 BPG combines with haemoglobin and reduces affinity towards oxygen

D:-Protein mediated coupling of the transition of haemoglobin between T and R states

Correct Answer:-Question Cancelled

Question26:-NABL is involved in the accreditation of

A:-Testing and Calibration Laboratories (ISO/IEC 17025)

B:-Medical Testing Laboratories (ISO 15189)

C:-Proficiency Testing Providers (PTP) (ISO/IEC 17043)

D:-All of the above

Correct Answer:- Option-D

Question27:-iGOT Karmayogi is a platform for

A:-Government employees to access courses and skills under Mission Karmayogi

B:-Government employees to mark their attendance

C:-Both (1) and (2)

D:-None of the above

Correct Answer:- Option-A

Question28:-In medical testing laboratories of tertiary health care hospitals, the maximum errors are in

A:-Pre-analytic stage

B:-Post-analytical stage

C:-Analytical stage

D:-In clinical interpretations

Correct Answer:- Option-A

Question29:-The recommended dietary allowance is sufficient to meet the nutritional requirements of what percentage of individuals in the life stage and gender group ?

A:-97%-98%

B:-100%

C:-80%

D:-75%

Correct Answer:- Option-A

Question30:-Which of the following is a features of gene regulation in humans ?

A:-Presence of Operons

B:-Alternative polyadenylation

C:-Polycistronic mRNAs for protein synthesis

D:-Transcription attentuation

Correct Answer:- Option-B

Question31:-Target cells for gene augmentation may include

A:-Bone marrow cells

B:-Tumor cells

C:-Epithelial cells of respiratory tract

D:-All of above

Correct Answer:- Option-D

Question32:-The hydroxylated form of which vitamin is used to treat cyanide toxicity

A:-Thiamine

B:-Niacin

C:-Cobalamin

D:-Folate

Correct Answer:- Option-C

Question33:-Which of the following is true of AETCOM (Attitude, Ethics and Communication) module of CBME ?

A:-Taught in first year of MBBS only

B:-Best taught by traditional lectures

C:-Teaches compassion, communication and ethics in medical profession

D:-Cannot be learnt. It only comes naturally

Correct Answer:- Option-C

Question34:-Which of the following increases the risk of Atherosclerosis ?

A:-A high ApoB/ApoA ratio

B:-A high HDL/LDL ratio

C:-Low lipoprotein (a)

D:-None of above

Correct Answer:- Option-A

Question35:-Formative assessment is

A:-Used to assess student progress and help him improve

B:-Added to internal assessment

C:-Marked strictly so student may improve

D:-A method of marking attendence

Correct Answer:- Option-A

Question36:-In fasting state, which of the following will show increased levels

A:-Insulin

B:-Glucagon

C:-Glucose

D:-Triacylglcerol

Correct Answer:- Option-B

Question37:-The duties and functions of Kerala Public Service Commission

A:-have been laid down in Art. 320 of the constitution

B:-include conduction examinations for appointments to the services of the state

C:-Both (1) and (2)

D:-Answer (2) is correct but (1) is not correct

Correct Answer:- Option-C

Question38:-What is the cause of Hyperuricemia in Glycogen storage disorder Type 1 ?

A:-There is increased Urate excretion

B:-There is excess Ribose-5-phosphate that forms Phosphoribosyl Pyro-Phosphate (PRPP)

C:-There is decreased salvage of Hypoxanthine

D:-There is deficiency of Adenosine deaminase

Correct Answer:- Option-B

Question39:-Azaserine is a structural analog of glutamine. It inhibits purine synthesis at which of the following steps ?

A:-PRPP synthase

B:-Formyl glycinamidine amidotransferase

C:-Adenylosuccinate synthetase

D:-Glycinamide ribonucleotide synthetase

Correct Answer:- Option-B

Question40:-Which transcription factor recognizes the TATA box in Eukaryotic transcription ?

A:-TFIID

B:-Sigma factor

C:-Rho factor

D:-RNA polymerase 1

Correct Answer:- Option-A

Question41:-Anti sense oligonucleotide therapy works by which of the following mechanisms ?

A:-Histone acetylation

B:-Blocking DNA replication

C:-Blocking protein synthesis in complementary RNA

D:-Enhancing mRNA translation

Correct Answer:- Option-C

Question42:-Eukaryotic translation is inhibited by inactivating EF-2 by which of the following ?

A:-Chloramphenicol

B:-Puromycin

C:-Diptheria toxin

D:-Rifampicin

Correct Answer:- Option-C

Question43:-Which of the following is associated with triple nucleotide repeat (CAG) expansion ?

A:-Huntington's chorea

B:-Fragile X syndrome

C:-Marfan's syndrome

D:-Friedreich's ataxia

Correct Answer:- Option-A

Question44:-Which gene product inhibits apoptosis and is over expressed in some lymphomas ?

A:-P53

B:-Bcl-2

C:-FADD (Fas Associated Death Domain)

D:-Retinoblastoma (Rb) gene

Correct Answer:- Option-B

Question45:-What is the effect of constitutive mutation in lac operon repressor gene ?

A:-Continuous transcription of lac genes

B:-Permanent shut down of lac genes

C:-Enhanced glucose uptake

D:-Inhibition of RNA polymerase binding

Correct Answer:- Option-A

Question46:-Which carcinogen is found in cigarette smoke and is responsible for lung cancer ?

A:-Affotoxin

B:-Benzopyrene

C:-Wood dust

D:-Asbestos

Correct Answer:- Option-B

Question47:-A 5 year old boy with family history of Duchenne muscular dystrophy is being evaluated for carrier status. Which test is most suitable to detect deletion in the dystrophin gene ?

A:-Real time PCR

B:-DNA microarray

C:-ELISA

D:-Southern blot with dystrophin probe

Correct Answer:- Option-B

Question48:-Which technique is used to produce monoclonal antibodies in the laboratory ?

A:-CRISPR-Cas

B:-Hybridoma technique

C:-Gel electrophoresis

D:-SDS page

Correct Answer:- Option-B

Question49:-Which antibody is most abundant in serum and provides long term immunity ?

A:-IgA

B:-IgG

C:-IgM

D:-IgD

Correct Answer:- Option-B

Question50:-Sampling for Non-Invasive Prenatal Diagnosis (NIPD) for chromosomal disorder is done from which of the following ?

A:-Chorionic villus sampling

B:-Amniocentesis

C:-Maternal blood

D:-Nuchal fold thickness

Correct Answer:- Option-C

Question51:-Which of the following statements about Glucose-6-Phosphate Dehydrogenase (G6PD) deficiency is correct ?

A:-It is an autosomal recessive disorder affecting both sexes equally

B:-The Mediterranean variant is characterized by unstable enzyme with mild, self-limiting hemolysis

C:-NADPH generated by G6PD is essential for maintaining glutathione in erythrocytes

D:-Fava beans are safe for individuals with G6PD deficiency

Correct Answer:- Option-C

Question52:-Which of the following correctly describes the action of an uncoupler in mitochondrial oxidative phosphorylation ?

A:-It inhibits complex IV, completely blocking electron transport

B:-It blocks ATP synthase, preventing proton flow through the enzyme

C:-It allows electron transport to continue but prevents ATP synthesis

D:-It inhibits the ADP/ATP translocator, stopping ATP export from the mitochondrion

Correct Answer:- Option-C

Question53:-During prolonged fasting, which of the following statements about metabolic fuel utilization is correct ?

A:-Muscle glycogen is directly converted to plasma glucose to maintain blood sugar

B:-Ketone bodies are synthesized in skeletal muscle to supply energy

C:-Nonesterified fatty acids released from adipose tissue become a major fuel for liver, heart and skeletal muscle

D:-Insulin secretion increases to promote hepatic glycogenolysis

Correct Answer:- Option-C

Question54:-Which of the following statements correctly described a metabolic consequence of hereditary fructose intolerance ?

A:-It is caused by deficiency of fructokinase and is usually benign

B:-It leads to profound hypoglycemia due to trapping of phosphate in fructose-I-phosphate

C:-It is characterized by excessive ATP formation and hypouricemia

D:-It can be prevented by avoiding lactose and galactose in the diet

Correct Answer:- Option-B

Question55:-Which of the following best explains the role of perilipin in adipocyte lipid metabolism ?

A:-It activates hormone-sensitive lipase directly under basal conditions

B:-It prevents lipolysis at rest but, when phosphorylated, facilitates hormone-stimulated triacylglycerol breakdown

C:-It is degraded during fasting to release fatty acids from lipid droplets

D:-If functions as an apolipoprotein essential for chylomicron assembly

Correct Answer:- Option-B

Question56:-A 45-year-old man with a history of chronic alcohol use presents with blistering skin iesions on sun-exposed areas, labs show increased urinary uroporphyrin. Which enzyme deficiency is responsible ?

A:-Uroporphyrinogen decarboxylase

B:-Coproporphyrinogen oxidase

C:-ALA dehydratase

D:-Protoporphyrinogen oxidase

Correct Answer:- Option-A

Question57:-Which one of the following statements regarding tyrosinemias is correct ?

A:-Type I tyrosinemia results from deficiency of tyrosine aminotransferase and is usually benign

B:-Type II tyrosinemia is due to deficiency of tyrosine aminotransferase and presents with keratitis, skin lesions, and intellectual disability

C:-Neonatal tyrosinemia is due to deficiency of fumarylacetoacetate hydrolase and rapidly leads to fatal liver failure

D:-Type I tyrosinemia is due to deficiency of p-hydroxyphenylpyruvate dioxygenase and treated with dietary methionine restriction alone

Correct Answer:- Option-B

Question58:-Which one of the following statements regarding orotic aciduria is correct ?

A:-Type I orotic aciduria is caused by a deficiency of only orotidylate decarboxylase and presents with hyperammonemia

B:-Type II orotic aciduria results from combined deficiency of orotate phosphoribosyltransferase and orotidylate decarboxylase

C:-Both Type I and Type II orotic acidurias present with megaloblastic anemia that does not respond to vitamin B12 or folate supplementation

D:-The orotic aciduria seen in Reye syndrome is due to a genetic defect in pyrimidine biosynthesis enzymes

Correct Answer:- Option-C

Question59:-Which one of the following statements regarding Vitamin E is correct ?

A:-Tocotrienols and tocopherols have equal biologic potency, and both are measured directly as α-tocopherol equivalents.

B:-Synthetic DL-α-tocopherol has lower biologic potency than naturally occurring d-α-tocopherol.

C:-Vitamin E deficiency is most reliably corrected by supplementation with synthetic tocotrienols rather than tocopherols.

D:-The primary role of Vitamin E in membranes is enzymatic removal of hydrogen peroxide.

Correct Answer:- Option-B

Question60:-Which of the following best explains the paradoxical shift of β-carotene from antioxidant to pro-oxidant in the lung ?

A:-β-carotene reduces molecular oxygen to generate singlet oxygen species directly in tissues with low partial pressure of oxygen

B:-At high concentrations and high partial pressures of oxygen, β-carotene undergoes autocatalytic radical reactions that propagate lipid peroxidation

C:-β-carotene binds to Cu^{2+} ions in the lung, generating hydroxyl radicals via Fenton chemistry

D:-Excessive β-carotene intake saturates renal excretion mechanisms, causing accumulation and enhanced oxidation by hydrogen peroxide

Correct Answer:- Option-B

Question61:-Which one of the following statements regarding prion diseases is correct ?

A:-The normal cellular prion protein (PrPc) is rich in β-sheets, whereas the pathogenic form (PrPsc) is predominantly α-helical

B:-Prion diseases are caused by infectious RNA-protein complexes that alter neuronal DNA transcription

C:-The pathogenic isoform PrPsc acts as a template, inducing conformational change of PrPc into the β-sheet-rich misfolded form.K

D:-The gene encoding human prion protein (PrP) is located on the short arm of chromasome 12

Correct Answer:- Option-C

Question62:-Which one of the following statements regarding the interplay of the citric acid cycle with gluconeogenesis and amino acid metabolism is correct ?

A:-Oxaloacetate is withdrawn freely from the citric acid cycle for gluconeogenesis, since phosphoenolpyruvate carboxykinase activity is independent of GTP availability

B:-Accumulation of acetyl-CoA simultaneously activates pyruvate carboxylase and inhibits pyruvate dehydrogenase, thereby favouring anaplerosis

C:-Cataplerotic reactions of the cycle refer to the replenishment of intermediates, whereas anaplerotic reactions describe their withdrawal

D:-Leucine and lysine are major anaplerotic precursors since they yield acetyl-CoA, which directly replenishes cycle intermediates

Correct Answer:- Option-B

Question63:-Which of the following statements about digestive proteases is correct ?

A:-Pepsin is secreted in its active form from gastric chief cells and preferentially cleaves at peptide bonds adjacent to lysine and arginine residues

B:-Enteropeptidase, secreted by duodenal epithelial cells, activates trypsinogen and the resulting trypsin autocatalytically activates other pancreatic zymogens

C:-Elastase, secreted as proelastase by gastric mucosa, preferentially hydrolyzes bonds adjacent to aromatic amino acids

D:-Carboxypeptidases and aminopeptidases both act on internal peptide bonds to generate smaller oligopeptides

Correct Answer:- Option-B

Question64:-A 12-year-old girl presented to OPD with chief complaints of recurrent lower respiratory tract infections. She did not have the proper development according to her age. On further evaluation, she was found to have defective CFTR gene. Which of the following ion channel is affected in this patient ?

A:-Potassium

B:-Sodium

C:-Chloride

D:-Calcium

Correct Answer:- Option-C

Question65:-The following amino acid helps transport ammonia from muscles to the liver for its detoxification

A:-Methionine

B:-Tyrosine

C:-Alanine

D:-Histidine

Correct Answer:- Option-C

Question66:-
A 4 year old male child, native of central India presented with mild pallor, icterus and history of frequent on and off abdominal and joint pains. On physical examination, the child has pale mucous membranes and hepatosplenomegaly. Laboratory studies show a Hb concentration of 8 g/dL. Hemoglobin HPLC showed raised fetal hemoglobin (HbF) and a variant peak in S window (71.9%) at retention time of 4.36 mins. Adult Hb (HbA) of 8.5% was noted. On genetic analyses, a point mutation was observed in the
β-globin gene leading to a change of a CAG codon (glutamate) to a GUG codon (valine). Which of the following anti-codons is most likely in the tRNA for valine ?

A:-GAC

B:-CUC

C:-CTU

D:-CAC

Correct Answer:- Option-D

Question67:-A 13-year-old boy presented to the OPD with severe abdominal pain. The child described the pain to be spasmodic and episodic especially after intake

of milk. The child also complains of rash and flatulence during these episodes. The above disease is due to the absence of what enzyme ?

A:-Maltase

B:-Amylase

C:-Sucarse

D:-Lactase

Correct Answer:- Option-D

Question68:-Which of the following homopolysaccharides are used for the measurement of GFR ?

A:-Chitin

B:-Cellulose

C:-Starch

D:-Inulin

Correct Answer:- Option-D

Question69:-Which of the following compound prevents Bilirubin from Re-entering the blood stream from liver under normal physiological conditions ?

A:-Glutathione S-transferase

B:-UDP glucoranate

C:-Albumin

D:-Anion transporter

Correct Answer:- Option-A

Question70:-In adipose tissue, the decrease in insulin and increase in Glucogon results in

A:-Activation of lipogenesis

B:-Inactivation of lipoprotein lipase

C:-Inactivation of hormone sensitive lipase

D:-Inhibition of lipolysis

Correct Answer:- Option-B

Question71:-A person was treated with an antimalarial drug and developed hemolytic anemia after treatment. Which one of the following enzymatic deficiencies can be suspected in this case

A:-Pyruvate kinase

B:-Pyruvate dehydrogenase

C:-Glucose 6-phosphate dehydrogenase

D:-Glucose 6-phosphatase

Correct Answer:- Option-C

Question72:-A 36-year-old lady with a BMI of 32 Kg/m2 attended the ante-Natal Care OPD during her first pregnancy. She complaints that she is feeling fatigued always, drinking a lot of water and is concerned as her sister had diabetes when she was pregnant. She was diagnosed as a case of Gestational diabetes mellitus (GDM). What test should be used to screen for diabetes in this patient post-partum ?

A:-Glycated hemoglobin

B:-Fasting plasma glucose

C:-At 6-12 weeks post-partum using non-pregnant OGTT criteria

D:-After 3 years only, using glucose or Hba 1c

Correct Answer:- Option-C

Question73:-Which of the following laboratory test does not support a diagnosis of obstructive jaundice is

A:-High alkaline phosphatase level

B:-Direct positive van den bergh reaction

C:-Increased excretion of urobilinogen in urine

D:-Bilirubin present in urine

Correct Answer:- Option-C

Question74:-A 5 month old infant was bought to paediatrics OPD, mother complained of musty odour in breath and urine. He was found to have a high serum phenylalanine concentration of 40 mg/dL. The signs of tyrosine deficiency were apparent. Enzymatic analysis using cultured fibroblasts shows normal activity of phenylalanine hydroxylase. Deficiency in function of which of the following coenzymes can be present in this ?

A:-Adenosylcobalamin

B:-Biopterin

C:-Pyridoxal phosphate

D:-Tetrahydrofolic acid

Correct Answer:- Option-B

Question75:-A 20-year-old woman presented at clinic with a history of recurrent, severe abdominal pain and episodes of confusion. She had been evaluated at the emergency department of her local hospital very frequently over the previous 12 months with abdominal pain. The previous lab investigation, including complete blood count, C-reactive protein liver and renal function tests and electrolytes, CT scan were all unremarkable. The current lab tests revealed increase urinary δ-aminolevulinate and porphobilinogen. There was no increase in Urine Coproporphyrin III and Fecal protoporphyrin III. The probabile diagnosis is

A:-X-linked sideroblastic anemia

B:-Acute intermittent porphyria

C:-Congenital erythopoietic porphyria

D:-Variegate porpyria

Correct Answer:- Option-B

Question76:-Regarding cardiac troponins, the correct statements are
i) The human heart isoform of Troponin C is identical to the slow twitch skeletal muscle isoform.
ii) Human cardiac Troponin I has an additional 11 amino acid residue at amino terminal end compared to skeletal muscle Troponin I making it cardiac specific.
iii) In humans cardiac Troponin T isoform expression has been demonstrated in skeletal muscle specimen obtained from patients with end stage renal disease.

A:-i) and ii) are correct

B:-i) and iii) are correct

C:-ii) and iii) are correct

D:-i), ii) and iii) are correct

Correct Answer:- Option-B

Question77:-The following parameter is not considered while assessing adequacy of hemodialysis

A:-Plasma urea

B:-Dialysate urea

C:-Time of dialysis session

D:-Dialysate flow rate

Correct Answer:- Option-B

Question78:-Which of the following enzyme activity is seen elevated in serum when stored ?

A:-ALT

B:-AST

C:-ALP

D:-GGT

Correct Answer:- Option-C

Question79:-A useful biochemical marker in maternal serum for neural tube defects in fetus is

A:-Alpha fetoprotein

B:-Human Chorionic Gonadotropin

C:-Circulating cell free DNA

D:-Dimeric inhibin A

Correct Answer:- Option-A

Question80:-Regarding male reproductive hormones; the correct statements are
i) Leutinising hormone acts on leydig cells to stimulate conversion of cholesterol to pregnenolone.
ii) Leutinising hormone secretion is stimulated by testosterone and estradiol.
iii) Leutinising hormone levels in serum is seen decreased in Klinefelter's syndrome.
iv) Higher concentration of leutinising hormone is seen in blood during early morning hours.

A:-i) and ii) are correct

B:-ii) and iii) are correct

C:-iii) and iv) are correct

D:-i) and iv) are correct

Correct Answer:- Option-D

Question81:-The following is true regarding Prostate Specific Antigen (PSA)

A:-Free PSA is biologically active

B:-Percent free PSA is higher in prostate cancer patients

C:-Total PSA measures free PSA and PSA-ACT complex only

D:-PSA density is the rate of change of PSA over time

Correct Answer:- Option-C

Question82:-Which of the following can be used as tumour marker for medullary carcinoma of thyroid ?

A:-Calcitonin

B:-CEA

C:-TSH

D:-Both 1 and 2

Correct Answer:- Option-D

Question83:-A biochemical marker of bone resorption is

A:-Osteocalcin

B:-Pyridinoline

C:-Sclerostin

D:-Bone Alkaline Phosphatase

Correct Answer:- Option-B

Question84:-The following is not a feature of POCT device for glucose measurement

A:-These devices are biosensors

B:-Reflectance or electrochemical detection is used

C:-Modern glucose strips are a form of this film technology

D:-Electrochemical glucose strips are manufactured using screen printing technology with ferrocene or its derivative in the printing ink

Correct Answer:-Question Cancelled

Question85:-The barcode format typically used in clinical laboratories is

A:-Code 28

B:-Code 39

C:-Code 128

D:-Codabar

Correct Answer:- Option-C

Question86:-The first thing to do when a QC result fails in an evaluation rule is

A:-Repeat QC using a fresh vial

B:-Stop reporting test results

C:-Recalibrate the machine

D:-None of the above

Correct Answer:- Option-B

Question87:-Proficiency testing is done in clinical chemistry laboratory to

A:-Identify imprecision of test results

B:-Identify random errors

C:-Compare the laboratory's performance with other laboratories

D:-Meet regulatory requirements

Correct Answer:- Option-C

Question88:-Majority of kidney stones are composed of

A:-Calcium oxalate

B:-Calcium phosphate

C:-Urate

D:-Cystine

Correct Answer:- Option-A

Question89:-Which of the following findings best differentiates Graves' disease from thyroiditis ?

A:-Elevated T3

B:-Suppressed TSH

C:-Positive anti-TPO antibodies

D:-Radioactive iodine uptake scan

Correct Answer:- Option-D

Question90:-A 30-year-old woman present in the OPD with complaints of failure to lactate, amenorrhoea and generalised weakness. She gave the history that she suffered from severe postpartum hemorrhage (PPH) 8 months ago. Her lab report show :

- FSH : Low
- LH : Low
- Prolactin : Low
- Estradiol : Low
- TSH : Low

What is the most likely cause ?

A:-Prolactinoma

B:-Functional hypothalamic amenorrhea

C:-Sheehan's syndrome

D:-Premature ovarian insufficiency

Correct Answer:- Option-C

Question91:-In which condition are TBG (thyroxine-binding globulin) levels increased, potentially mimicking hyperthyroidism on total hormone assays ?

A:-Nephrotic syndrome

B:-Pregnancy

C:-Liver failure

D:-Androgen therapy

Correct Answer:- Option-B

Question92:-Which of the following accurately describes the role of inhibin B in males ?

A:-Stimulates testosterone production

B:-Enhances FSH release

C:-Inhibits FSH secretion from the anterior pituitary

D:-Stimulates spermatid differentiation

Correct Answer:- Option-C

Question93:-Which of the following best describes the mechanism of action of melatonin on target tissues ?

A:-GABA-A receptor agonist

B:-NMDA receptor antagonist

C:-GPCR-mediated (MT1 and MT2 receptors)

D:-Ionotropic cholinergic receptor stimulation

Correct Answer:- Option-C

Question94:-ACTH stimulates which part of the adrenal gland ?

A:-Medulla

B:-Capsule

C:-Cortex

D:-None of the above

Correct Answer:- Option-C

Question95:-Which of the following conditions may be treated using synthetic calcitonin ?

A:-Hypocalcemia

B:-Osteoporosis

C:-Diabetes

D:-Anemia

Correct Answer:- Option-B

Question96:-In a male with Kallmann syndrome, which hormone level would be expected to be low ?

A:-Prolactin

B:-GH

C:-GnRH

D:-ACTH

Correct Answer:- Option-C

Question97:-PTH increases calcium levels in the blood by all of the following mechanisms except

A:-Increasing bone resorption

B:-Increasing renal reabsorption of calcium

C:-Increasing phosphate reabsorption in the kidneys

D:-Stimulating calcitriol (vitamin D) synthesis

Correct Answer:- Option-C

Question98:-Which of the following is the main stimulus for ghrelin secretion ?

A:-Fasting

B:-Gastric distension

C:-High-fat meal

D:-Acid secretion

Correct Answer:- Option-A

Question99:-A patient with a Zollinger-Ellison syndrome (gastrinoma) is most likely to present with

A:-Achlorhydria

B:-Diarrhea and recurrent peptic ulcers

C:-Hypoglycemia and lactic acidosis

D:-Biliary colic

Correct Answer:- Option-B

Question100:-Which of the following is true about insulin's effect on the liver ?

A:-It increases GLUT4 expression in hepatocytes

B:-It promotes glycogenolysis

C:-It inhibits gluconeogenesis via Akt-mediated FoxO1 inhibition

D:-It stimulates glucagon secretion

Correct Answer:- Option-C