

# PROVISIONAL ANSWER KEY

Question Paper Code:	6/2018/OL
Category Code:	245/2017
Exam:	Lecturer in Biochemistry
Medium of Question:	English
Date of Test	06-02-2018
Department	Collegiate Education
Alphacode	A

Question1:-Name the monthly brought out by the Publication Division, Government of India, that carries messages of economic development

- A:-Kuruksheetra
- B:-Yojana
- C:-Rosgar Samachar
- D:-Ajit

Correct Answer:- Option-B

Question2:-Which of the following is the largest circulated newspaper in India?

- A:-Malayala Manorama
- B:-Dainik Jagran
- C:-Eenadu
- D:-Dainik Bhaskar

Correct Answer:- Option-B

Question3:-What are bots?

- A:-Robots which manage complex security and surveillance tasks
- B:-Remote sensing earth stations of the satellite
- C:-Computer programmes designed to work automatically over the internet
- D:-Massive virtual storage of information of big corporations

Correct Answer:- Option-C

Question4:-Who among the following is the leader of the Indian National Congress in the 16th Lok Sabha?

- A:-Mallikarjun Kharge
- B:-Rahul Gandhi
- C:-Sonia Gandhi
- D:-Gulab Nabi Azad

Correct Answer:- Option-A

Question5:-Post truth which means debates are framed largely by appeals to emotions disconnected from the details of the issues became widespread during the campaigns of the

- A:-2016 Presidential election in the US
- B:-2014 Lok Sabha election in India
- C:-2012 Presidential election in the US
- D:-2012 Russian presidential election

Correct Answer:- Option-A

Question6:-The first Educational magazine in Kerala published by CMS college is

- A:-Njana Nikshepam
- B:-Vidya Vinodini
- C:-Vivekodayam
- D:-Vidyasangraham

Correct Answer:- Option-D

Question7:-Kannerum Kinavum is an autobiography of

- A:-Sahodaran Ayyappan
- B:-V.T. Bhattathirippad
- C:-Ayyankali
- D:-Kumara Guru

Correct Answer:- Option-B

Question8:-The proprietor and promoter of Swadeshbhimani was

- A:-K. Ramakrishna Pilla
- B:-A. Balakrishna Pilla
- C:-Vakkam Abdul Khader Moulavi
- D:-K.P. Kesava Menon

Correct Answer:- Option-C

Question9:-Name the first woman judge of a High Court in India

A:-Anna Chandy

B:-Arya Pallam

C:-Akkamma Cherian

D:-A.V. Kuttimalu Amma

Correct Answer:- Option-A

Question10:-Nivarthana movement in the early 1930s was an agitation demanding adequate representation in the legislature for

A:-Ezhavas

B:-Muslims

C:-Christians

D:-All of the above

Correct Answer:- Option-D

Question11:-The students are mostly influenced by

A:-Father

B:-Mother

C:-Teacher

D:-Friends

Correct Answer:- Option-C

Question12:-Which is to be considered while constructing curriculum?

A:-Objectives

B:-Values

C:-Methods

D:-Students

Correct Answer:- Option-A

Question13:-A teacher should have knowledge about

A:-Child psychology

B:-Educational psychology

C:-Educational sociology

D:-All these

Correct Answer:- Option-A

Question14:-The method which is also known as laboratory method

A:-Project method

B:-Problem solving method

C:-Heuristic method

D:-Source method

Correct Answer:- Option-D

Question15:-The book 'Democracy and Education' is written by

A:-Plato

B:-Aristotle

C:-Dewey

D:-Rousseau

Correct Answer:- Option-C

Question16:-Purposive sampling is also known as

A:-Deliberate sampling

B:-Quota sampling

C:-Simple random sampling

D:-Stratified random sampling

Correct Answer:- Option-A

Question17:-H-test is also known as

A:-Distribution-free test

B:-Fisher Irwin test

C:-Kruskal-Wallis test

D:-Wilcoxon-Manny-Whitney test

Correct Answer:- Option-C

Question18:-The researcher has no control over the variables in

A:-Descriptive Research

B:-Conceptual Research

C:-Fundamental Research

D:-Qualitative Research

Correct Answer:- Option-A

Question19:-Which is not a code of ethics to be followed by a researcher?

A:-Objectivity in data collection

B:-Objectivity in statistical techniques

C:-Objectivity in analysis

D:-Objectivity in findings

Correct Answer:- Option-C

Question20:-The study of commonsense knowledge

A:-Ethnography

B:-Ethnomethodology

C:-Epistemology

D:-Historiography

Correct Answer:- Option-B

Question21:-The Preamble to the Constitution of India was adopted by the Constituent Assembly on

A:-26th November 1949

B:-26th January 1949

C:-26th January 1950

D:-15th August 1947

Correct Answer:- Option-A

Question22:-Which among the following statement/s is/are true about Directive Principles of States Policy?

A:-The provisions contained in this part shall not be enforceable by any court

B:-They are fundamental in the governance of the country

C:-It shall be the duty of the State to apply these principles in making laws

D:-All the above

Correct Answer:- Option-D

Question23:-The President of India takes the oath in the presence of who among the following?

A:-Prime Minister of India

B:-Chief Justice of India

C:-Speaker of Rajya Sabha

D:-Speaker of Lok Sabha

Correct Answer:- Option-B

Question24:-The relations between the Union and the States are provided in which part of the constitution?

A:-Part XI

B:-Part XII

C:-Part XIII

D:-Part XIV

Correct Answer:- Option-A

Question25:-Which article of the Indian Constitution provides provision as to financial emergency?

A:-356

B:-359

C:-368

D:-360

Correct Answer:- Option-D

Question26:-The Right to Information Act was enacted by the Indian Parliament in which year?

A:-2002

B:-2005

C:-2015

D:-None of the above

Correct Answer:- Option-B

Question27:-An Act to give effect to the United Nations Convention on the Rights of Persons with Disabilities was passed by Parliament in which year?

A:-1995

B:-2000

C:-2016

D:-None of the above

Correct Answer:- Option-C

Question28:-How many guaranteed wage employments per financial year were originally guaranteed by the Mahatma Gandhi National Rural Employment Act, 2005?

- A:-365
- B:-180
- C:-100
- D:-90

Correct Answer:- Option-C

Question29:-As per the National Food Security Act of 2013, who among the following is the head of the household for the purpose of issue of ration cards?

- A:-Oldest male member above the age of 18 years
- B:-Oldest female member above the age of 18 years
- C:-Oldest member above the age of 18 years
- D:-Any member proposed by the family

Correct Answer:- Option-B

Question30:-Which among the following ISO family of standards provide practical tools for companies and organisations to manage their Environmental responsibilities?

- A:-ISO 14000
- B:-ISO 9001
- C:-ISO 26000
- D:-ISO 50001

Correct Answer:- Option-A

Question31:-Fatty acids occurring in humans most commonly

- A:-are highly branched structure
- B:-have double bonds present in trans configuration
- C:-contain an even number of carbon atoms
- D:-are limited to 16 or fewer carbon atoms

Correct Answer:- Option-C

Question32:-The active site of all serine proteases contain

- A:-Histidine
- B:-Asparagine
- C:-`gamma`-carboxyglutamate
- D:-Lysine or arginine

Correct Answer:- Option-A

Question33:-If a polypeptide has 400 amino acid residues, what is its approximate mass?

- A:-22,000 daltons
- B:-40,000 daltons
- C:-44,000 daltons
- D:-80,000 daltons

Correct Answer:- Option-C

Question34:-Gamma(`gamma`)-carboxyglutamate, a derived amino acid is found in

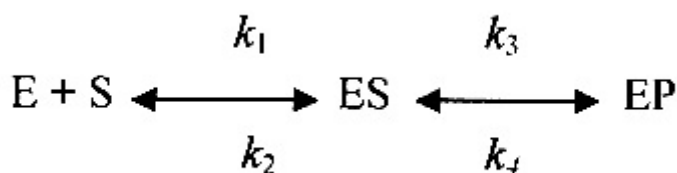
- A:-elastin
- B:-collagen
- C:-hemoglobin
- D:-prothrombin

Correct Answer:- Option-D

Question35:-Determine the Km value of the following enzyme catalyzed reaction

(where

`k\_1 = 10^9 M^{-1} S^{-1}, k\_2 = 10^5 S^{-1}, k\_3=10^2 S^{-1}, k\_4=10^7 M^{-1} S^{-1}`)



- A:-`10^{-3}`M`
- B:-`10^{-4}`M`
- C:-`10^{-7}`M`
- D:-`10^{-9}`M`

Correct Answer:- Option-B

Question36:-Which of the following contains a hexahydroxy alcohol?

- A:-Gangliosides
- B:-Phosphatidylcholines
- C:-Phosphatidylinositols
- D:-Sphingomyelins

Correct Answer:- Option-C

Question37:-The amide nitrogen of glutamine

- A:-represents a nontoxic transport form of ammonia
- B:-is used in synthesis of asparagine, purines and pyrimidines
- C:-can be recovered as ammonia by the action of glutaminase
- D:-all of the above

Correct Answer:- Option-D

Question38:-Artificial sweeteners sugar free and equal contain aspartame. Name the two amino acids that are components of aspartame

- A:-Aspartic acid and phenylalanine
- B:-Arginine and tyrosine
- C:-Aspartic acid and tryptophan
- D:-Aspartic acid and glutamic acid

Correct Answer:- Option-A

Question39:-Amino acids present in glutathione include

- A:-Glutamate, cysteine, glycine
- B:-Aspartate, cysteine, glycine
- C:-Glutamate, cysteine, lysine
- D:-Glutamate, methionine, glycine

Correct Answer:- Option-A

Question40:-Molar concentration of  $\text{H}_2\text{O}$  in pure water is

- A:-30.5 M
- B:-55.5 M
- C:-75 M
- D:-100 M

Correct Answer:- Option-B

Question41:-Lactate dehydrogenase reaction is monitored by formation of NADH at wavelength

- A:-260
- B:-280
- C:-340
- D:-420

Correct Answer:- Option-C

Question42:-Hyaluronate, an important component of vitreous humor and synovial fluid, is

- A:-A sugar alcohol
- B:-A glycosaminoglycan
- C:-A glycoprotein
- D:-A glycol lipid

Correct Answer:- Option-B

Question43:-Statins are routinely used for treatment of hypercholesterolemia. They mediate their action by inhibiting

- A:-AMP-activated protein kinase
- B:-Lecithin-cholesterol acyl transferase
- C:-Prostaglandin synthase
- D:-Hydroxyl methyl glutaryl CoA reductase

Correct Answer:- Option-D

Question44:-In presence of competitive inhibitor in enzyme catalysed reactions

- A:- $V_{max}$  increases
- B:- $V_{max}$  decreases
- C:- $K_m$  increases
- D:- $K_m$  decreases

Correct Answer:- Option-C

Question45:-A peptide has a sequence Glu-His-Trp-Ser-Gly-Leu-Lys-Pro-Gly. What is the net charge on the molecule at pH 11?

- A:-+2
- B:-1

C:-0

D:--2

Correct Answer:- Option-D

Question46:-The alpha carboxyl group of all the 20 standard amino acids have pK value in the range

A:-1.8 - 2.9

B:-4.2 - 6.5

C:-7.2 - 8.2

D:-8.8 - 10.8

Correct Answer:- Option-A

Question47:-IL-2 secretion induces

A:-T-cell proliferation

B:-Vasculature formation

C:-Antiviral activity

D:-MHC-1 expression

Correct Answer:- Option-A

Question48:-Which of the following is used as homology and similarity tool?

A:-EMBOSS

B:-RAMSOL

C:-BLAST

D:-PROSPECT

Correct Answer:- Option-C

Question49:-Abzymes are

A:-Proenzymes

B:-Enzymes that hydrolyse antibiotics

C:-Enzymes present in biodetergents

D:-Antibodies having catalytic activities

Correct Answer:- Option-D

Question50:-Triple stranded collagen helix is stabilized by

A:-Leucine and isoleucine

B:-Proline and hydroxyproline

C:-Phenylalanine and valine

D:-Methionine and cysteine

Correct Answer:- Option-B

Question51:-Which of the following is a DNA binding motif?

A:-helix-loop-helix

B:-leucine zipper

C:-zinc finger

D:-all of the above

Correct Answer:- Option-C

Question52:-The ideal instrument used for getting accurate mass data in peptide mass finger printing is

A:-Electrophoretic apparatus

B:-MALDI-TOF MS instrument

C:-Spectrophotometer

D:-Ultracentrifuge

Correct Answer:- Option-B

Question53:-Which of the following is tumor suppressor gene?

A:-WT1

B:-Src

C:-Myc

D:-None of these

Correct Answer:- Option-A

Question54:-Which organelle is involved in the oxidation of very long-chain fatty acids?

A:-Peroxisomes

B:-Nucleus

C:-Endoplasmic reticulum

D:-Golgi apparatus

Correct Answer:- Option-A

Question55:-Hyper secretion of ACTH is associated with

A:-Amenorrhoea

- B:-Cushing's disease
  - C:-Steatorrea
  - D:-Zollinger-Ellison syndrome
- Correct Answer:- Option-B

Question56:-Visualization of distribution of transmembrane protein in the plane of a cell membrane can be done in best way by using

- A:-Phase contrast microscope
  - B:-Freeze fracture electron microscopy
  - C:-Scanning electron microscopy
  - D:-Affinity chromatography
- Correct Answer:- Option-B

Question57:-Ziehl Neelsen staining procedure is applied for staining

- A:-Mycobacterium
  - B:-Shigella spp.
  - C:-E. coli
  - D:-Candida spp.
- Correct Answer:- Option-A

Question58:-Which of the following is not a gluconeogenic enzyme?

- A:-Phosphoenolpyruvate carboxykinase
  - B:-Fructose 1,6-bisphosphatase
  - C:-Glucose 6-phosphatase
  - D:-Phosphoglucomutase
- Correct Answer:- Option-D

Question59:-Which of the following antitumor agents works by impairing de novo purine synthesis?

- A:-Acyclovir
  - B:-5-Fluorouracil
  - C:-Methotrexate
  - D:-Hydroxyurea
- Correct Answer:- Option-C

Question60:-Which of the following is a method for assessing genome complexity?

- A:-Annealing
  - B:-Electrophoresis
  - C:-Equilibrium centrifugation
  - D:-`"C\_0t"`` curves
- Correct Answer:- Option-D

Question61:-The direct effect of cAMP in the protein kinase A pathway is to

- A:-activate adenylate cyclase
  - B:-dissociate regulatory subunits from protein kinase
  - C:-phosphorylate certain cellular proteins
  - D:-phosphorylate proteins kinase A
- Correct Answer:- Option-B

Question62:-Gamma glutamyl transferase is commonly used marker for diagnosis of

- A:-Cardiac diseases
  - B:-Diabetes
  - C:-Alzheimer disease
  - D:-Liver diseases
- Correct Answer:- Option-D

Question63:-The histamine is responsible for causing

- A:-Vasodilation
  - B:-Increased capillary permeability
  - C:-Broncho constriction
  - D:-All of the above
- Correct Answer:- Option-D

Question64:-Which of the following pairs of vectors and DNA insert sizes is correctly matched?

- A:-Plasmids        5-10 kb
  - B:-Cosmids        15 kb
  - C:-YACs            5000 kb
  - D:-Bacteriophage lambda    45 kb
- Correct Answer:- Option-A

Question65:-How many high-energy bonds are used in the formation of one peptide bond?

- A:-1
- B:-2
- C:-3
- D:-4

Correct Answer:- Option-D

Question66:-DNA polymerase III lacks following activities

- A:-5' - 3' polymerase
- B:-3' - 5' exonuclease
- C:-5' - 3' exonuclease
- D:-All of the above

Correct Answer:- Option-C

Question67:-Triskelion structure is associated with

- A:-Glycophorin A
- B:-Clathrin
- C:-Elastases
- D:-Nucleosomes

Correct Answer:- Option-B

Question68:-The size of Okazaki segments synthesized on lagging strand of bacterial DNA is approximately

- A:-100 - 200 nucleotides
- B:-100 - 200 base pairs
- C:-1000 - 2000 nucleotides
- D:-1000 - 2000 base pairs

Correct Answer:- Option-C

Question69:-Galactosemia

- A:-is a genetic deficiency of a uridylyltransferase that exchanges galactose 1-phosphate for glucose on UDP-glucose
- B:-results from a deficiency of an epimerase
- C:-is not apparent at birth but symptoms develop in later life
- D:-is an inability to form galactose 1-phosphate

Correct Answer:- Option-A

Question70:-Which of the following consensus sequence is present at -35 position of a typical bacterial promoter?

- A:-TTGACA
- B:-TATAAT
- C:-GAATTC
- D:-None of the above

Correct Answer:- Option-A

Question71:-Alfred Hershey and Martha Chase during their experiment on phage DNA used following radioisotopes for labeling

- A:- $^3\text{H}$  and  $^{15}\text{N}$
- B:- $^{14}\text{C}$  and  $^{131}\text{I}$
- C:- $^{32}\text{P}$  and  $^{35}\text{S}$
- D:- $^3\text{H}$  and  $^{60}\text{Co}$

Correct Answer:- Option-C

Question72:-Pentaglycine chain bridges the lysine E-amino group and the D-alanine carboxylic group in the cell wall of

- A:-Gram positive bacteria
- B:-Gram negative bacteria
- C:-Fungi
- D:-Higher plants

Correct Answer:- Option-A

Question73:-Lactate to pyruvate conversion takes place in

- A:-Muscle
- B:-Liver
- C:-Muscle and liver
- D:-None of these

Correct Answer:- Option-B

Question74:-Attenuational control of gene expression occurs in

- A:-Bacteria
- B:-Mitochondria
- C:-Chloroplasts



D:-All of the above

Correct Answer:- Option-D

Question75:-Which of the following RNA types is comparatively least stable in bacteria?

A:-mRNA

B:-tRNA

C:-rRNA

D:-All are equally stable

Correct Answer:- Option-A

Question76:-The proteins that redistribute lipids across the membrane belong to the class

A:-Flippases

B:-Floppases

C:-Scramblases

D:-All of the above

Correct Answer:- Option-D

Question77:-Selenocysteine is coded by

A:-AUG

B:-UAA

C:-UAG

D:-UGA

Correct Answer:- Option-D

Question78:-Predict the order of emergence of the following proteins when a mixture of four is chromatographed on a gel exclusion column at pH 7

Protein 1 ; Mr 6,000 pI = 5

Protein 2 ; Mr 23,000 pI = 8

Protein 3 ; Mr 55,000 pI = 4

Protein 4 ; Mr 10,000 pI = 10

A:-Protein 1, Protein 2, Protein 3, Protein 4

B:-Protein 3, Protein 2, Protein 4, Protein 1

C:-Protein 4, Protein 2, Protein 1, Protein 3

D:-Protein 3, Protein 1, Protein 2, Protein 4

Correct Answer:- Option-B

Question79:-Which of the following is anion exchange resin?

A:-CM cellulose

B:-Dowex-50

C:-DEAE cellulose

D:-CM sepharose

Correct Answer:- Option-C

Question80:-How many bands will appear when hemoglobin is electrophoresed on SDS PAGE in reducing condition?

A:-1

B:-2

C:-3

D:-4

Correct Answer:- Option-B

Question81:-Major emission band during measurement of sodium concentration by flame emission spectroscopy is obtained at the wave length

A:-589 nm

B:-671 nm

C:-786 nm

D:-852 nm

Correct Answer:- Option-A

Question82:-Identify the commonly used mobile phase in GC-MS.

A:-`"CH\_3CN"``

B:-`"H\_2O"``

C:-He

D:-`"CO\_2"``

Correct Answer:- Option-C

Question83:-For studying protein dynamics in live cells fluorescence recovery after photobleaching (FRAP) is used. It is based on

- A:-Rapid image acquisition of live cells
- B:-Mobility of particular fusion protein
- C:-Reversible photobleaching of fluorescent protein
- D:-Irreversible photobleaching of fluorescent protein

Correct Answer:- Option-B

Question84:-Which combination of ligand and target molecule is wrongly written about affinity chromatography?

- A:-Antibody-antigen
- B:-Hormone-receptor
- C:-Avidin-biotin
- D:-Lectin-immunoglobulin

Correct Answer:- Option-D

Question85:-Which of the following dye is used for staining denatured linear RNA during electrophoresis?

- A:-Ethyidium bromide
- B:-Bromophenol blue
- C:-Commassie brilliant blue
- D:-Acridine orange

Correct Answer:- Option-D

Question86:-Fundamental vibrational motions are studied in

- A:-IR spectroscopy
- B:-UV-Vis spectroscopy
- C:-Circular dichroism
- D:-Mass spectrometry

Correct Answer:- Option-A

Question87:-Diapedesis is

- A:-An increase in diameter of blood vessels
- B:-An increase in capillary permeability
- C:-Emigration of phagocytes through the gap between endothelial cells to inflammation site
- D:-Adherence of cells to the endothelial wall

Correct Answer:- Option-C

Question88:-Half life of  $^{14}\text{C}$  is about 5760 years. After how many years will you get about 3% of the original activity?

- A:-5760 years
- B:-17280 years
- C:-28800 years
- D:-34560 years

Correct Answer:- Option-C

Question89:-The separation of plasma proteins by electrophoresis is commonly carried out at pH

- A:-10.0
- B:-8.6
- C:-7.4
- D:-6.5

Correct Answer:- Option-B

Question90:-Which of the following does not participate in antioxidant defense system?

- A:-SOD
- B:-Catalase
- C:-Glutathione
- D:-Glucokinase

Correct Answer:- Option-D

Question91:-The enzyme present in Indian cobra venom, responsible for mediating toxic effect, is

- A:-Proteinases
- B:-Nucleases
- C:-Phospholipase
- D:-Carbohydrases

Correct Answer:- Option-C

Question92:-Telomerase

- A:-is a ribonucleoprotein
- B:-is a RNA dependent DNA polymerase

C:-uses 3' end of DNA as primer and adds successive TTAGGG repeats to it

D:-all of the above

Correct Answer:- Option-D

Question93:-Diisopropylphosphofluoridate is an irreversible inhibitor of the enzyme

A:-Acetylcholinesterase

B:-Glycopeptide transpeptidase

C:-Cytochrome oxidase

D:-Succinate dehydrogenase

Correct Answer:- Option-A

Question94:-Reverse transcriptase has

A:-RNA dependent DNA polymerase activity

B:-DNA dependent DNA polymerase activity

C:-RNase H activity

D:-All of the above

Correct Answer:- Option-D

Question95:-Which of the following is lacking in muscle, but present in normal liver?

A:-Glycogen phosphorylase

B:-Glucose-6-phosphatase

C:-Phosphoglucomutase

D:-Phosphoglucokinase

Correct Answer:- Option-B

Question96:-Full form of DPT vaccine is

A:-Diphtheria, Pertusis, Tetanus

B:-Diphtheria, Pertusis, Typhoid

C:-Diphtheria, Pneumonia, Tetanus

D:-Dysentery, Polio, Tetanus

Correct Answer:- Option-A

Question97:-Penicillin inhibits bacterial growth by irreversibly inactivating the enzyme

A:-Fatty acid synthase

B:-Glycopeptide transpeptidase

C:-Cytochrome oxidase

D:-Hexokinase

Correct Answer:- Option-B

Question98:-Which statistical test is used for comparison of two means from independent samples?

A:-F-test

B:-t-test

C:-Chi-square test

D:-Z-test

Correct Answer:- Option-B

Question99:-Which of the following acts like detergent?

A:-Isoprene

B:-Phospholipids

C:-Deoxycholic acid

D:-Estradiols

Correct Answer:- Option-C

Question100:-Splicing of GU-AG intron

A:-Involves transesterification reaction

B:-Form Y-shaped branch structure

C:-Occurs in prokaryotic messenger RNA

D:-Requires maturase activity

Correct Answer:- Option-A