

PROVISIONAL ANSWER KEY

Question 123/2023/OL

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Question1:-Morphologically indistinguishable but genetically different populations are called

A:-A sexual species

B:-Cryptic species

C:-Cohesion species

D:-Biological species

Correct Answer:- Option-B

Question2:-Who proposed the five kingdom classification?

A:-Robert H. Whittaker

B:-Ernst Haeckel

C:-Aristotle

D:-Carl Woese

Correct Answer:- Option-A

Question3:-An ogive is a graphic presentation of the _____ distribution for a given set of data.

A:-Frequency

B:-Relative frequency

C:-Percentage frequency

D:-Cumulative frequency

Correct Answer:- Option-D

Question4:-Following measure of dispersion is not based on all the observation of a series.

(i) Standard deviation

(ii) Quartile deviation

(iii) Mean deviation

(iv) Range

A:-(i) and (iii)

B:-(ii) and (iv)

C:-All the above

D:-(ii)

Correct Answer:- Option-B

Question5:-Which among the following products from Kerala have registered under Geographical indications recently?

- (i) Kanthalloor Vattavada Veluthulli
- (ii) Kodungallur Pottuvellari
- (iii) Onattukara Ellu
- (iv) Attappady Thuvara

A:-(i) and (ii) only

B:-(i) only

C:-(i) and (iii) only

D:-All the above

Correct Answer:- Option-D

Question6:-_____ is a semi quantitative technique for detecting radioactively labelled molecules in cells, tissues or electrophoretic gels.

A:-Immunoblotting

B:-Mass spectrometry

C:-Autoradiography

D:-SDS-PAGE

Correct Answer:- Option-C

Question7:-Following radioisotopes are commonly used in biological research. Their half-life is mentioned in the bracket.

Which among them have the highest specific activity?

A:-Phosphorus-32 (14.3 days)

B:-Iodine-125 (60.4 days)

C:-Sulfur-35 (87.5 days)

D:-Tritium (12.4 years)

Correct Answer:- Option-A

Question8:-Which microscopy will be used to view the details of live, unstained cells?

(i) Scanning Electron Microscope (SEM)

(ii) Transmission Electron Microscope (TEM)

(iii) Phase Contrast Microscope

(iv) Differential Interference Contrast (DIC) microscope

A:-(iii) only

B:-(i) and (ii) only

C:-(iii) and (iv) only

D:-(iv) only

Correct Answer:- Option-C

Question9:-Which of the following statements is not true about Agarose gel electrophoresis.

(i) It uses electric current to separate DNA molecules.

- (ii) Under electric field, DNA migrates from positive electrode to negative electrode.
- (iii) If separates DNA by size.
- (iv) Ethidium bromide is usually used to visualize DNA in gels.

A:-(iv) only

B:-(ii) only

C:-all above

D:-(iii) only

Correct Answer:- Option-B

Question10:-Visualization at the nanoscale can be achieved by

(i) Scanning Tunneling Microscopy

(ii) Atomic Force Microscopy

(iii) Nomarsky microscopy

(iv) All the above

A:-(iv)

B:-(ii) and (iii)

C:-(ii)

D:-(i) and (ii)

Correct Answer:- Option-D

Question11:-Monomers of Lactose are

A:-Two glucose molecules

B:-One glucose and one fructose

C:-One galactose and one glucose

D:-Two galactose molecules

Correct Answer:- Option-C

Question12:-Which are the three aminoacids with aromatic side chains?

A:-Valine, Leucine, Isoleucine

B:-Lysine, Arginine, Histidine

C:-Phenylalanine, Threonine, Tryptophan

D:-Phenylalanine, Tyrosine, Tryptophan

Correct Answer:- Option-D

Question13:-Select the incorrect statement about α -helix from the following

A:-It was discovered by Linus Pauling in 1951

B:- α -helix is left handed

C:-

α -helix has 3.6 residues per turn

D:- α -helix have an average length of ~ 12 residues

Correct Answer:- Option-B

Question14:-_____ lipids are involved in the production of pain and fever.

- A:-Prostaglandins
- B:-Cerebrosides
- C:-Gangliosides
- D:-Sphingomyelins

Correct Answer:- Option-A

Question15:-The Watson-Crick model of DNA is based on X-ray diffraction data provided by

- A:-James Watson and Francis Crick
- B:-Rosalind Franklin and Maurice Wilkins
- C:-Oswald Avery, Colin MacLeod and Maclyn McCarty
- D:-Erwin Chargaff

Correct Answer:- Option-B

Question16:-Select the correct statement from the following.

- (i) In competitive inhibition, inhibitors bind to the active site of the enzyme.
- (ii) Competitive inhibition can be overcome by a sufficiently high concentration of substrate.
- (iii) Noncompetitive inhibition cannot be overcome by increasing the substrate concentration.

- A:-(i) and (ii)
- B:-(ii) and (iii)
- C:-(iii) only
- D:-(i, ii and iii)

Correct Answer:- Option-D

Question17:-Flowering can be induced in some plants by a cold treatment given to a hydrated seed or to a growing plant. The process is known as

- A:-Photoperiodism
- B:-Temperature compensation
- C:-Vernalization
- D:-Floral evocation

Correct Answer:- Option-C

Question18:-The synthesis of sugars through the reversal of glycolysis is called

- A:-Gluconeogenesis
- B:-Glycogenesis
- C:-Glycogenolysis
- D:-Pentose phosphate pathway

Correct Answer:- Option-A

Question19:-Carrier proteins that transport a single type of molecule down its concentration gradient via facilitated diffusion are called

A:-Antiporters

B:-Symporters

C:-Uniporters

D:-Proton pumps

Correct Answer:- Option-C

Question20:-Nucleosomes of eukaryotes contain _____ base pairs of DNA.

A:-147

B:-140

C:-90

D:-10-90

Correct Answer:- Option-A

Question21:-Turner syndrome is due to

A:-Trisomy

B:-Monosomy

C:-Polyploidy

D:-Duplication

Correct Answer:- Option-B

Question22:-CDK1/Cdc25C functions in

A:-The spindle assembly check point

B:-The spindle position check point

C:-The DNA damage checkpoint

D:-The intra S-phase checkpoint

Correct Answer:- Option-D

Question23:-Which among the following is not a promoter elements in eukaryotes

A:-TATA box

B:-Initiators (Inr)

C:-CpG islands

D:-Pribnow box

Correct Answer:- Option-D

Question24:-_____ allows a tRNA to recognize more than one mRNA codon.

A:-Watson and Crick base pairing

B:-Wobble pairing

C:-D loop

D:-T ψ CG loop

Correct Answer:- Option-B

Question25:-Which of the following combination is correct about ribosome

composition?

(i) $50S(23S+5S), 30S(16S)=70S$

(ii) $50S(23S+5.8S), 30S(16S)=70S$

(iii) $60S(28S+5.8S+5S)+40S(18S)=80S$

(iv) $60S(28S+5.8S+5S)+40S(16S)=80S$

A:-(i)

B:-(iii)

C:-(i) and (iii)

D:-(ii) and (iv)

Correct Answer:- Option-C

Question26:-Inactive but stable component of the genome derived by mutation of an ancestral active gene is called

A:-Gene family

B:-Pseudogene

C:-Multigene

D:-Transposons

Correct Answer:- Option-B

Question27:-The strength of relationship or association between a dependent and an independent variables for a given population can be determined by

A:-Regression

B:-Correlation

C:-Standard deviation

D:- Goodness of fit

Correct Answer:- Option-A

Question28:-Poisson distribution is associated with

A:-Probability of success

B:-Probability of failure

C:-Probability of occurrence of rare events

D:-All the above

Correct Answer:- Option-C

Question29:-In hypothesis testing, a Type 1 error arises when

A:-Null hypothesis is rejected when it is true

B:-Null hypothesis is accepted when it is false

C:-Null hypothesis is accepted when it is true

D:-Null hypothesis is rejected when it is false

Correct Answer:- Option-A

Question30:-Which of the following is not a cross-cutting issue permeating through the Biosafety protocol 2000?

A:-Environment

B:-Human Health

C:-Precaution

D:- Trade

Correct Answer:- Option-A

Question31:-Following is a list of some enzymes used in recombinant DNA technology with their activity. Select the incorrect combination of enzyme and its activity.

A:-T7 DNA polymerase : DNA polymerase and 3' exonuclease activities

B:-Poly(A) polymerase : Adds AMP from ATP to the 3' end of mRNA

C:-S1 nuclease : Degrades double-standard RNA

D:-Mung bean nuclease : Single-stranded DNA and RNA endonuclease

Correct Answer:- Option-C

Question32:-Few terms have been explained below. Select the correctly explained ones.

(i) Multiple factor hypothesis explains variation in complex phenotypes such as height, weight, and disease susceptibility.

(ii) Broad-sense heritability is the proportion of the total phenotypic variance that is due to genetic factors.

(iii) Fitness is the number of offspring left by an individual, often compared with the average of the population.

(iv) QTL are associated with a particular phenotypic trait, which varies in degree and which can be attributed to polygenic effects.

A:-Only (i) and (iv) are correct

B:-Only (iii) and (iv) are correct

C:-Only (i) and (iii) are correct

D:-All are correct

Correct Answer:- Option-D

Question33:-Though fusion tags have been very helpful in the detection and isolation of target recombinant proteins, they may interfere with the biological function of the target protein eventually. Hence, they are generally removed by cleaving a short linker amino acid sequence joining the fusion tag with the target protein using appropriate protease enzymes. Which of the following is a commonly used protease for performing the above cleavage?

A:-Trypsin

B:-Tobacco Etch Virus Protease

C:-Alpha peptidase

D:-None of the above

Correct Answer:- Option-B

Question34:-The ectopic expression of some transcription factors can increase the efficiency of somatic embryogenesis (SE) induction and lead to the formation of somatic embryos without adding hormones. Mutations in these genes have a negative impact on the efficiency of SE induction. Which of the following is not such a transcription factor?

A:-LEC

B:-BBM

C:-NOR

D:-AGL 15

Correct Answer:- Option-C

Question35:-When was the Protein Data Bank established and what was the number of biological macromolecular structures held in the database at that time?

A:-1971 with 11 structures

B:-1991 with 11 structures

C:-1991 with 7 structures

D:-1971 with 7 structures

Correct Answer:- Option-D

Question36:-Osteogenesis imperfecta (OI) is a human bone disease. The majority of people with this disease have a dominant mutation in one of the two genes that produce type 1 collagen, COL1A1 or COL1A2. However, this disease doesn't affect everyone who has COL1A1 and COL1A2 mutations in the same way. In fact, some people can carry the mutation but have no symptoms. Which of the following terms explains the above phenomenon?

A:-Variable Expressivity

B:-Incomplete penetrance

C:-Codominance

D:-None of the above

Correct Answer:- Option-B

Question37:-Following are statements regarding bacteriophage lambda

(i) pR transcript encodes N, a transcriptional anti-terminator required for expression of most

early lambda genes, and CIII, a positive regulator of lysogeny.

(ii) pL transcript encodes for Cro, CII, O, P, and Q

(iii) CII is the major lysogenic decision determinant, promoting the expression of CI

Which one of the options below represents the combination of all correct

stateemnts?

A:-Only(iii) is correct

B:-Only (ii) is correct

C:-Both (ii) and (iii) are correct

D:-Both (i) and (ii) are correct

Correct Answer:- Option-A

Question38:-Which of the following is an incorrect statement?

A:-H2AX is a variant of the histone protein H2 located throughout the chromatin region

B:-Macro H2C is a variant of the histone protein H2 located in the inactive X chromosome region

C:-H2Az is a variant of the histone protein H2 located in the euchromatin region

D:-CENP-A is a variant of the histone protein H3 located in the centromere region

Correct Answer:- Option-B

Question39:-Which of the following is an incorrect combination of a viral disease and the Order of the causative virus?

(i) AIDS : Orterirales

(ii) Measles : Mononegativrales

(iii) SARS : Norzivirales

(iv) Rabies : Mononegavirales

A:-Both (i) and (ii)

B:-Both (ii) and (iv)

C:-Only (ii)

D:-Only (iii)

Correct Answer:- Option-D

Question40:-The mode of action of certain antibiotics is given below

(i) Ampicillin : Inhibition of cell wall synthesis by interference with peptidoglycan cross-linking

(ii) Chloramphenicol : Inhibition of translation by blocking peptidyl transferase on the 50S

ribosomal submit

Select the right option

A:-Both (i) and (ii) are correct

B:-Both (i) and (ii) are incorrect

C:-Only (i) is correct

D:-Only (ii) is correct

Correct Answer:- Option-A

Question41:-Which of the following media is selective and differential in its function?

(i) Eosin methylene blue agar

(ii) MacConkey Agar

(iii) Mannitol Salt Agar

A:-Only (i) and (ii)

B:-Only (ii) and (iii)

C:-Only (iii)

D:-All of the above

Correct Answer:- Option-D

Question42:-Given below are hyperaccumulator plants with the elements that they accumulate. Find out the correct combination.

(i) Nickel:*Phyllanthus*

(ii) Zinc : *Arabidopsis*

(iii) Arsenic : *Pteris*

(iv) Copper : *Commelina*

A:-Both (i) and (ii) are correct

B:-All are correct

C:-Both (iii) and (iv) are correct

D:-Only (iii) is correct

Correct Answer:- Option-B

Question43:-Which among the following does not belong to schedule I as per the Wildlife Protection Act in India?

A:-Gangetic Dolphin

B:-Indian Porcupine

C:-Musk Deer

D:-Swamp Deer

Correct Answer:- Option-B

Question44:-Which of the following statements is correct about ice cores?

(i) The U.S. National Ice Core Laboratory, in Lakewood, Colorado, is the U.S. storage facility,

which archives ice cores from all over the world

(ii) The ice cores contain annual layers that can be counted to know the age of the ice, just

like rings inside a tree.

(iii) In India, ice core facility is available at Centre for Climate Research, IITM, Pune.

(iv) Ice cores tell about past climate, including the past atmospheric temperatures and

greenhouse gases.

A:-All are correct

B:-Only (i) and (iv) are correct

C:-Only (i), (ii) and (iv) are correct

D:-Only (ii) and (iv) are correct

Correct Answer:- Option-C

Question45:-The natural products obtained from plants belong to different classes and almost each one shows antiinfective properties. Among the various classes, the ones with the lowest proportion of antiinfective metabolites are

A:-Sugars and Glycosylated compounds

B:-Phenolic compounds like xanthenes and coumarins

C:-Peptides

D:-Anthracenes

Correct Answer:- Option-A

Question46:-Choose the incorrect statement from the following

A:-Two components necessary for centromere function are α satellite sequences and CENP-B boxes

B:-The term telomere was introduced by Hermann J Muller

C:-T-loops are special structures seen in giant chromosomes

D:-The production of two functional centromeres is a key step in the transition from metaphase to anaphase

Correct Answer:- Option-C

Question47:-Identify the incorrect statement.

(i) Density gradient centrifugation can be used to identify all repetitive DNA sequences

(ii) The most highly repeated sequences in eukaryotic genomes do not encode Proteins or

RNA

(iii) The most prevalent of the repeated DNA sequences are transposable genetic elements, or

inactive sequences derived from transposable elements.

(iv) An abundance of dispersed repetitive DNA in the genome makes chromosomes walking easier.

A:-Only (i)

B:-Both (i) and (iv)

C:-Only (ii)

D:-Both (ii) and (iv)

Correct Answer:- Option-B

Question48:-Who among the following has received Nobel Prize for a direct contribution to the field of Genetics?

(i) Har Gobind Khurana

(ii) Arthur Kornberg

(iii) Hamilton O Smith

(iv) Beadle and Tatum

A:-All of them

B:-Only (i) and (ii)

C:-Only (i), (ii) and (iv)

D:-Only (iii) and (iv)

Correct Answer:- Option-C

Question49:-Read the following statements in the context of epigenetics.

(i) When the DNA of a cell is replicated, histones associated with the DNA as part of the

nucleosomes are distributed randomly to the daughter cells along with the DNA

molecules.

(ii) Histone code postulates that the state and activity of a particular region of chromatin

depend on the specific modifications, or combinations of modifications, to the histone tails

in that region.

(iii) The most notable histone modifications include acetylation, methylation and phosphorylation.

(iv) Histone modifications alter the manner in which the histone tails of neighboring nucleosomes interact with one another

Which among the above is a correct statement?

A:-Only (ii), (iii) and (iv)

B:-Only (i), (ii) and (iii)

C:-Only (iii) and (iv)

D:-All are correct

Correct Answer:- Option-D

Question50:-The major facilities supported by the Biotechnology Information System Network (BTISnet) of the Department of Biotechnology, India include

A:-Indian Biological Data Centre (IBDC)

B:-Indo-Japan DAICENTER Programme

C:-MANAV : Human Atlas Initiative

D:-All of the above

Correct Answer:- Option-D

Question51:-Erythropoietin is secreted by

A:-Kidney

B:-Bone marrow

C:-Liver

D:-Lungs

Correct Answer:- Option-A

Question52:-Which of the following primary chordate characters are not lost even after retrogressive metamorphosis in Ascidia

A:-Notochord

B:-Pharyngeal gill slits

C:-Dorsal tubular nerve cord

D:-Both (1) and (2)

Correct Answer:- Option-B

Question53:-Which of the following is false regarding B cells?

A:-Originate in bone marrow

B:-Differentiate in lymphoid tissue

C:-Surface immunoglobulin absent

D:-Mediate humoral immunity

Correct Answer:- Option-C

Question54:-Vaccination done for _____ is a toxoid preparation.

A:-Diphtheria

B:-Polio

C:-Rubella

D:-Varicella

Correct Answer:- Option-A

Question55:-According to Law of Bergonie and Tribondeau, the cells in their descending order of sensitivity to radiation are

A:-Nerve cells, Muscle cells, Epithelial cells, Haematopoietic cells

B:-Muscle cells, Nerve cells, Haematopoietic cells, Epithelial cells

C:-Haematopoietic cells , Epithelial cells, Muscle cells, Nerve cells

D:-Epithelial cells, Muscle cells, Nerve cells, Haematopoietic cells

Correct Answer:- Option-C

Question56:-Which of the following matches correctly?

(i) Devonian - Mammals

(ii) Pennsylvanian - Fishes

(iii) Jurassic - Reptiles

(iv) Tertiary - Amphibians

A:-(i) and (ii)

B:-(ii) and (iii)

C:-(iii) and (iv)

D:-(iii) only

Correct Answer:- Option-B

Question57:-The fetal hormones which works as uterine stimulants to enable parturition are

A:-Oxytocin

B:-Cortisol

C:-Prostaglandin

D:-Both (1) and (2)

Correct Answer:- Option-D

Question58:-Which statement regarding rigor mortis is correct?

A:-ATP can't mediate separation of cross bridges from actin filaments

B:-Muscles can no longer relax

C:-Muscles contract and become rigid even without action potential

D:-All of these

Correct Answer:- Option-C

Question59:-Which among the following is an immunologically privileged site?

A:-Eye

B:-Testis

C:-Central nervous system

D:-All of these

Correct Answer:- Option-D

Question60:-Position emission tomography is based on

A:-Coulomb scattering

B:-Pair production

C:-Pair annihilation

D:-Compton effect

Correct Answer:- Option-C

Question61:-Which of the following are wrong pairs?

(i) Autoimmune haemolytic anaemia : Rh antigen

(ii) Graves disease : thyroid stimulating hormone receptor

(iii) Myasthenia gravis : Adrenaline receptor

(iv) Systemic lupus erythematosus : Rh antigen

A:-(i) and (ii)

B:-(ii) and (iii)

C:-(iii) and (iv)

D:-(i) and (iv)

Correct Answer:- Option-C

Question62:-Which of the following is wrong with respect to radionuclide used in nuclear medicine?

(i) must emit gamma ray with the right energy to allow detection

(ii) must have a short half-life

(iii) must be cheap

(iv) must be readily available

A:-(ii) only

B:-(i) only

C:-all of these

D:-none of these

Correct Answer:- Option-D

Question63:-Directional selection

(i) occurs due to the change in the environmental in particular direction

(ii) favors the phenotype which is non-average or extreme

(iii) eliminates normal or average individuals

(iv) keeps a population genetically constant

A:-(i), (ii) and (iii) are correct

B:-(i), (ii) and (iv) are correct

C:-only (iv) is correct

D:-(ii), (iii) and (iv) are correct

Correct Answer:- Option-A

Question64:-Oxytocin and vasopressin are structurally and functionally similar nonapeptides secreted by the posterior pituitary. The difference between the two is that

A:-Phenyl alanine and Arginine of Vasopressin are substituted by Isoleucine and leucine in Oxytocin

B:-Phenyl alanine and Arginine of Oxytocin are substituted by Isoleucine and leucine in Vasopressin

C:-Isoleucine and leucine of Vasopressin are substituted by cysteine and tyrosine in Oxytocin

D:-Cysteine and tyrosine of Vasopressin are substituted by Isoleucine and leucine in Oxytocin

Correct Answer:- Option-A

Question65:-Contribution of external factors in their descending order, in compressing the lymph vessel and thereby causing pumping of lymph, are

A:-Contraction of surrounding skeletal muscles, movement of the part of the body, pulsation of arteries adjacent to the lymphatics, compression of the tissues by objects outside the body

B:-Compression of the tissues by objects outside the body, pulsation of arteries adjacent to the lymphatics, movement of the parts of the body, contraction of surrounding skeletal muscles

C:-Movement of the parts of the body, contraction of surrounding skeletal muscles, pulsation of arteries adjacent to the lymphatics, movement of the parts of the body, compression of the tissues by objects outside the body

D:-Movement of the parts of the body, pulsation of arteries adjacent to the lymphatics, contraction of surrounding skeletal muscles, pulsation of arteries adjacent to the lymphatics

Correct Answer:- Option-A

Question66:-State bird of Kerala is

A:-Buceros bicornis

B:-Malabar banded peacock

C:-Paradise flycatcher

D:-Pavo cristatus

Correct Answer:- Option-A

Question67:-Physiology of which sensation involves a hyperpolarization rather than depolarization?

A:-Taste

B:-Smell

C:-Hearing

D:-Vision

Correct Answer:- Option-D

Question68:-Which of the complement activation pathways are antibody independent?

A:-Classical pathway

B:-Lectin pathway

C:-Properdin pathway

D:-Both (2) and (3)

Correct Answer:- Option-D

Question69:-Which one of the following denote the correct order of the divisions of the geologic time scale?

A:-Era, Epoch, Eon, Period, Age

B:-Eon, Era, Period, Epoch, Age

C:-Period, Age, Era, Epoch, Eon

D:-Epoch, Era, Period, Age, Eon

Correct Answer:- Option-B

Question70:-Which of the following is true with respect to passive immunity?

A:-Exposure to antigen occurs

B:-Immune system gets activated

C:-Immunity develops immediately

D:-Immunological memory develops

Correct Answer:- Option-C

Question71:-Why are large amounts of solutes filtered and then reabsorbed by the kidneys?

A:-Allows kidneys to rapidly remove waste products from the body

B:-Allows all the body fluids to be filtered and processed by the kidney many times each day

C:-Both (a) and (b)

D:-None of the above

Correct Answer:- Option-C

Question72:-Antibiotic aminopterin added in the growth medium for production of monoclonal antibodies, inhibits _____ synthesis.

A:-Nucleic acid

B:-Protein

C:-Lipid

D:-Carbohydrate

Correct Answer:- Option-A

Question73:-In chemical control of respiration, oxygen has a significant direct effect on

- A:-Respiratory center of brain
- B:-Peripheral chemoreceptors of carotid bodies
- C:-Peripheral chemoreceptors of aortic bodies
- D:-Both (2) and (c)

Correct Answer:- Option-D

Question74:-Zymogen activation by autocatalysis is shown by

- A:-Chymotrypsin
- B:-Trypsin
- C:-Carboxypeptidase
- D:-Elastase

Correct Answer:- Option-B

Question75:-Damage to the substantia nigra of basal ganglia results in

- A:-Alzheimers
- B:-Schizophrenia
- C:-Parkinsons
- D:-Both (1) and (3)

Correct Answer:- Option-C

Question76:-Which antibody complies the following characteristics : enters secretion,crosses placenta, binds to macrophages/neutrophils

- A:-IgM
- B:-IgG
- C:-IgE
- D:-All of these

Correct Answer:- Option-B

Question77:-Glucose uptake from the lumen of small intestinal is an example of

- A:-Simple diffusion
- B:-Primary active transport
- C:-Secondary active transport
- D:-Filtration

Correct Answer:- Option-C

Question78:-Respiratory distress syndrome in premature babies can be caused by

- A:-Increased surfactant production and larger radii of alveoli
- B:-Increased surfactant production and smaller radii of alveoli
- C:-Decreased surfactant production and larger radii of alveoli

D:-Decreased surfactant production and smaller radii of alveoli

Correct Answer:- Option-D

Question79:-Overall ability of antibodies to interact with antigen is called

A:-Cross reactivity

B:-Avidity

C:-Affinity

D:-Specificity

Correct Answer:- Option-B

Question80:-Which of the following combinations are correct?

(i) Widal's test-Typhoid-Agglutination test

(ii) Weil-Felix test-Rickettsial infections-Precipitation test

(iii) Wasserman test-Syphilis-Complement fixation test

A:-(i) and (ii)

B:-(i) and (iii)

C:-(ii) and (iii)

D:-All of these

Correct Answer:- Option-B

Question81:-Which of the following is not a type of tissue culture?

A:-Meristem culture

B:-Embryo culture

C:-Leaf culture

D:-Bacterial culture

Correct Answer:- Option-D

Question82:-Which of the following is an example of a tissue-engineered product that has been approved for clinical use?

A:-Artificial heart valve

B:-Artificial kidney

C:-Artificial pancreas

D:-All of the above

Correct Answer:- Option-A

Question83:-Which of the following is a commonly used cryoprotectant in embryo cryopreservation?

A:-Ethanol

B:-Dimethyl sulfoxide (DMSO)

C:-Formaldehyde

D:-Hydrogen peroxide

Correct Answer:- Option-B

Question84:-Which of the following is not a characteristic of stem cells?

A:-Self-renewal

B:-Differentiation

C:-Apoptosis

D:-Proliferation

Correct Answer:- Option-C

Question85:-What are induced pluripotent stem cells (iPSCs)

A:-Stem cells derived from adult tissues that have been reprogrammed to a pluripotent state

B:-Stem cells derived from umbilical cord blood

C:-Stem cells derived from embryonic tissues

D:-Stem cells derived from bone marrow

Correct Answer:- Option-A

Question86:-What is the target antigen for trastuzumab (Herceptin)?

A:-CD20 (Cluster of differentiate 20)

B:-HER2 (Human Epidermal Growth factor receptor 2Q)

C:-VEGF (Vascular Endothelial Growth factor)

D:-PD-1 (Programmed Cell Death Protein 1)

Correct Answer:- Option-B

Question87:-Which of the following amino acids is nonpolar?

A:-Asparagine

B:-Glutamine

C:-Leucine

D:-Lysine

Correct Answer:- Option-C

Question88:-Which of the following is an example of a probiotic strain?

A:-Lactobacillus acidophilus

B:-E.coli O157:H7

C:-Salmonella typhi

D:-Streptococcus pyogenes

Correct Answer:- Option-A

Question89:-Which of the following is NOT involved in cell determination?

A:-Gene expression

B:-Environmental cues

C:-Cell migration

D:-Epigenetic modifications

Correct Answer:- Option-C

Question90:-How do morphogenetic gradients influence tissue development?

A:-They direct cells to differentiate into specific cell types

B:-They control cell proliferation and survival

C:-They regulate cell migration and adhesion

D:-All of the above

Correct Answer:- Option-D

Question91:-Which of the following is the correct order of events in oogenesis?

A:-Meiosis II, ovulation, meiosis I, fertilization

B:-Meiosis I, Ovulation, Meiosis II, fertilization

C:-Ovulation, Meiosis I, Meiosis II, fertilization

D:-Ovulation, Meiosis II, Meiosis I, fertilization

Correct Answer:- Option-C

Question92:-Which of the following is a result of capacitation?

A:-Acrosome reaction

B:-Sperm motility

C:-Sperm maturation

D:-Sperm differentiation

Correct Answer:- Option-A

Question93:-What is the significance of meroblastic cleavage?

A:-It allows for the formation of a blastula

B:-It allows for the development of large eggs with lots of yolk

C:-It allows for the formation of specialized cells and tissues

D:-It sets the stage for gastrulation and organogenesis

Correct Answer:- Option-B

Question94:-Which of the following is true about teratogenesis?

A:-It is always caused by exposure to environmental toxins

B:-It can occur at any stage of development

C:-It is always reversible

D:-It only affects humans

Correct Answer:- Option-B

Question95:-Which of the following is a protein complex involved in dosage compensation in mammals?

A:-Sry

B:-Hox

C:-Xist

D:-SOX9

Correct Answer:- Option-C

Question96:-Which of the following is true about exons and introns?

A:-Exons are transcribed into RNA and introns are not

B:-Introns are transcribed into RNA and exons are not

C:-Both exons and introns are transcribed into RNA

D:-Exons and introns are not involved in transcription

Correct Answer:- Option-C

Question97:-What is preimplantation genetic testing?

A:-A technique used to determine the sex of the embryo before implantation

B:-A technique used to screen embryos for genetic disorders

C:-A technique used to select the most viable embryo for implantation

D:-A technique used to modify the genes of the embryo

Correct Answer:- Option-B

Question98:-How is the absence of the H antigen related to the presence of the A and B antigens?

A:-The A and B antigens are modified forms of the H antigen

B:-The A and B antigens are completely unrelated to the H antigen

C:-The A and B antigens are formed independently of the H antigen

D:-The A and B antigens are produced in the absence of the H antigen

Correct Answer:- Option-A

Question99:-Which of the following is a recently discovered species of primates?

A:-Gorilla beringei

B:-Pan troglodytes

C:-Pongo tapanuliensis

D:-Homo sapiens

Correct Answer:- Option-C

Question100:-Scientists discovered a new organ in the human body that had gone unnoticed till recently . What is the name of this organ?

A:-Mesentery

B:-Interstitium

C:-Submucosa

D:-Reticular organ

Correct Answer:- Option-A