

PROVISIONAL ANSWER KEY

Question 18/2025/OL

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Department Health Services

Question1:-Which is the major source of erythropoietin production in adults ?

A:-Liver

B:-Bone marrow

C:-Spleen

D:-Kidney

Correct Answer:- Option-D

Question2:-In Chronic myeloid leukemia, the abnormal proliferation of myeloid cells is primarily caused by mutation involving _____ gene.

A:-JAK 2

B:-BCR-ABL 1

C:-FLT 3

D:-HBB

Correct Answer:- Option-B

Question3:- HbA_2 has

A:-Two alpha and two beta chains

B:-Two alpha and two gamma chains

C:-Two alpha and two delta chains

D:-Two alpha and two epsilon chains

Correct Answer:- Option-C

Question4:-Glanzmann's thrombasthenia is characterised by a defect in which of the following receptors ?

A:-Glycoprotein IIb and/or IIIb

B:-Glycoprotein Ib-IX

C:-Collagen receptor

D:-Glycoprotein v receptor

Correct Answer:- Option-A

Question5:-A patient having mean corpuscular volume is 110f1 is more likely to have

A:-Microcytic anaemia

B:-Macrocytic anaemia

C:-Polycythemia

D:-Normocytic anaemia

Correct Answer:- Option-B

Question6:-In a patient with obstructive jaundice which of the following finding is most likely to be observed in the urine ?

A:-Positive for urobilinogen and bilirubin

B:-Negative for urobilinogen and bilirubin

C:-Positive for urobilinogen but no bilirubin

D:-Positive for bilirubin but no urobilinogen

Correct Answer:- Option-D

Question7:-What is the significance of squamous epithelial cell in a sputum sample ?

A:-Indicates the presence of viral infection

B:-Confirms bacterial pneumonia

C:-Indicates contamination with saliva

D:-Indicates a representative sputum sample from the lower respiratory tract

Correct Answer:- Option-C

Question8:-Benzidine test is used for detecting

A:-Occult blood in stool

B:-Fat in stool

C:-Stercobilinogen in stool

D:-Reducing substance in stool

Correct Answer:- Option-A

Question9:-Which of the following urinary crystal has a "thorn apple" appearance ?

A:-Triple phosphate

B:-Calcium carbonate

C:-Ammonium biurate

D:-Sulphonamide

Correct Answer:- Option-C

Question10:-Xanthochromia in CSF is indicative of

A:-Subarchnoid haemorrhage

B:-Multiple sclerosis

C:-Tubercular meningitis

D:-None of these

Correct Answer:- Option-A

Question11:-An example of nuclear fixative is

A:-Schaudinn's fluid

B:-Champy's fluid

C:-Glutaraldehyde

D:-Carnoy's fluid

Correct Answer:- Option-D

Question12:-Microtome best suited for cutting unfixed tissue is

A:-Rotary microtome

B:-Vibrating microtome

C:-Sledge microtome

D:-Sliding microtome

Correct Answer:- Option-B

Question13:-A synthetic resin mountant is

A:-Canada Balsam

B:-Gum Arabic

C:-Colophonium resin

D:-DPX

Correct Answer:- Option-D

Question14:-In Verhoeff's iron haematoxylin staining elastic fibers stain _____

A:-Red

B:-Black

C:-Yellow

D:-Green

Correct Answer:- Option-B

Question15:-The recommended procedure to remove formalin pigment from tissue section is to

A:-Treat with 1% HCl

B:-Treat with ethanol

C:-Treat with 1% alcoholic solution of sodium hydroxide

D:-Treat with water

Correct Answer:- Option-C

Question16:-A differential stain used for hormonal evaluation in vaginal smear is

A:-Shorr's stain

B:-Weigert stain

C:-Methenamine stain

D:-Basic fuchsin

Correct Answer:- Option-A

Question17:-Which condition is characterized by the absence of barr body in females ?

- A:-Turner syndrome
- B:-Klinefelters syndrome
- C:-Edward syndrome
- D:-None of these

Correct Answer:- Option-A

Question18:-The primary material used for making nucleopore filter is

- A:-Cellulose
- B:-Nylon
- C:-Agarose
- D:-Polycarbonate

Correct Answer:- Option-D

Question19:-Special stain used to demonstrate DNA in cytological and histological specimen is

- A:-Congo red stain
- B:-PAS stain
- C:-Feulgen stain
- D:-Giemsa stain

Correct Answer:- Option-C

Question20:-Maturation index is typically expressed as a ratio of

- A:-Superficial cell : intermediate cell : basal cell
- B:-Basal cell : intermediate cell : superficial cell
- C:-Intermediate cell : basal cell
- D:-Superficial cell : intermediate cell

Correct Answer:- Option-B

Question21:-Chromosome banding methods are either based on staining chromosomes with a dye or on assaying for a particular function. Which one is wrongly named in the below list ?

- A:-G-(Giemsa) banding
- B:-R-(Roentgen) banding
- C:-C-(Centromere) banding
- D:-Q-(Quinacrine) banding

Correct Answer:- Option-B

Question22:-From the following options, find out the highly sensitive and specific technique, often providing results quicker than traditional karyotyping, especially in cases of subtle chromosomal abnormalities.

A:-RDT

B:-FISH

C:-PET

D:-ISCN

Correct Answer:- Option-B

Question23:-Find the odd one.

A:-Down Syndrome

B:-Turner Syndrome

C:-Edwards Syndrome

D:-Patau Syndrome

Correct Answer:- Option-B

Question24:-Human chromosomes are grouped based on the position of the centromere on the chromosome. Which statement is wrong among the following ?

A:-The centromere is located near the middle in metacentric chromosomes

B:-The centromere is located near one end in acrocentric chromosomes

C:-The centromere is located between the middle and end in submetacentric chromosomes

D:-None of the above

Correct Answer:- Option-D

Question25:-A mitotic inhibitor must be used to obtain adequate numbers of cells in the metaphase. Write the example of mitotic inhibitor used.

A:-Colcemid

B:-Colchicine

C:-Phyto haem agglutinin

D:-Both 1 and 2

Correct Answer:- Option-D

Question26:-Find the true statement about "Golden Blood Type" from the following

i. It is rarest blood type

ii. Only the golden blood type can be transfused to them

iii. It is "O" Rh negative group

iv. It is known as Rh null blood type

A:-i and iv

B:-i, ii and iii

C:-i, ii and iv

D:-iv

Correct Answer:- Option-C

Question27:-Mother Rh Positive, father Rh Positive and Child Rh negative. Which of the following statement is true ?

A:-Mother heterozygous for D

B:-Father homozygous for D

C:-Father heterozygous for D

D:-Both 1 and 3

Correct Answer:- Option-D

Question28:-Major crossmatching is done to

A:-Detect antigens in recipient's cells active against Donor's antibody

B:-To serve as a check on the accuracy of ABO grouping and Rh typing

C:-To detect the presence of a typical antibodies in the donor's serum

D:-None of the above

Correct Answer:- Option-B

Question29:-Most common transfusion reaction due to ABO incompatibility is

A:-Acute Haemolytic reaction

B:-Urticaria

C:-HIV

D:-Transfusion overload

Correct Answer:- Option-A

Question30:-Which storage condition in following is correct ?

A:-Cryoprecipitate : 4°C

B:-Platelet concentrate : 37°C

C:-Frozen RBC : -40°C

D:-FFP : -20°C

Correct Answer:- Option-D

Question31:-Which of the following is not Louis Pasteur's discovery ?

A:-Microorganisms cause fermentation

B:-Microorganisms do not arise due to spontaneous generation

C:-All cells originate from pre-existing cells

D:-Developed rabies Vaccine

Correct Answer:- Option-C

Question32:-Find the correct one from the following, regarding WHO classification of Risk Groups of microbes.

i. Risk Group I is high risk to workers and community and consists of viruses like Smallpox

ii. Risk Group III is of moderate risk and comprises bacteria like Streptococci

iii. Risk Group IV is high risk to workers and community and comprises viruses like Ebola

iv. Risk Group II is low risk to workers and community and comprises food spoilage bacteria

A:-iii only

B:-iv only

C:-ii and iii

D:-i only

Correct Answer:- Option-A

Question33:-Best method for sterilizing oils and powders

A:-Hot Air Oven

B:-Autoclave

C:-Tyndallization

D:-Inspissation

Correct Answer:- Option-A

Question34:-Regarding centrifuging in Microbiology lab, the Laboratory staff must not do the following to avoid infection.

A:-On hearing breaking noise switch off the centrifuge and immediately clean it with disinfectant

B:-On hearing breaking noise, switch off the centrifuge and leave the room for 30 minutes and then clean it with disinfectant

C:-Sealed centrifuge buckets should be used for high-risk samples

D:-After breakage of centrifuge tubes and settling aerosols buckets and debris must be autoclaved

Correct Answer:- Option-A

Question35:-Albert staining technique is done for differentiation of

A:-Mycobacterium tuberculosis

B:-Corynebacterium diphtheriae

C:-Staphylococcus aureus

D:-Salmonella typhi

Correct Answer:- Option-B

Question36:-Which light source is not used for fluorescent microscopy ?

A:-LED

B:-Tungsten halogen

C:-Laser

D:-None of the above

Correct Answer:- Option-D

Question37:-Example of budding bacteria

A:-Hyphomonas polymorpha

B:-Saccharomyces cerevisiae

C:-Candida albicans

D:-None of the above

Correct Answer:- Option-A

Question38:-Peptidoglycan the most important constituent of bacterial cell is otherwise known as

A:-Lignin

B:-Pectin

C:-Murein

D:-Glycan

Correct Answer:- Option-C

Question39:-The different techniques for obtaining anaerobic conditions include

A:-Copper coated steel wool to remove Oxygen

B:-An anaerobic jar with a gas generating kit

C:-Sodium dithionite agar

D:-All of the above

Correct Answer:- Option-D

Question40:-Fever is caused by

A:-Bartonella quintana

B:-Rickettsia rickettsii

C:-Coxiella burnetti

D:-Borrelia burgdorferi

Correct Answer:- Option-C

Question41:-In the following which is not a property of transport media ?

A:-Sustain viability of microbes

B:-Prevent over growth of competing microbes

C:-Can be used for direct identification of microbes

D:-Allows only limited growth and keep sample as close to its original state

Correct Answer:- Option-C

Question42:-Find the wrong identification tests for Vibrio cholera

A:-Oxidase positive with Kovac's reagent

B:-Produce yellow colonies on TCBS

C:-Ferment L. arabinose

D:-Lactose fermented on prolonged incubation

Correct Answer:- Option-C

Question43:-Which of the following diagnostic method is most useful in detecting E.histolytica from stool samples ?

A:-Kato-Katz method

B:-Rapid antigen detection tests

C:-Sabin-Feldman dye test

D:-Card agglutination test

Correct Answer:- Option-B

Question44:-Which of the following is commonly used for the transport of stool specimens for parasitological examination ?

A:-Polyvinyl alcohol fixative

B:-Stuart's transport media

C:-Amie's transport media

D:-Cary-Blair medium

Correct Answer:- Option-A

Question45:-Wuchereria bancrofti, a causative agent of lymphatic filariasis comes under

A:-Trematode

B:-Protozoa

C:-Cestode

D:-Nematode

Correct Answer:- Option-D

Question46:-In rapid diagnostic tests for malaria, the most commonly targeted antigen for Plasmodium falciparum is

A:-*P_f EMP₁*

B:-MSP-1

C:-*P_f HRP₂*

D:-LDH

Correct Answer:- Option-C

Question47:-The purpose of using Schaudinn's Stain in parasitology is

A:-To differentiate helminthic eggs

B:-To identify acid-fast organisms in blood smears

C:-To detect protozoan cysts in faecal specimen

D:-To observe motility of protozoal parasites in liquid samples

Correct Answer:- Option-C

Question48:-For diagnosing Schistosoma haematobium infections, the most appropriate time to collect urine is

A:-Early morning

B:-Mid day

C:-Evening

D:-Midnight

Correct Answer:- Option-B

Question49:-Fungal blood cultures are most effectively performed using which automated system ?

A:-Vitek 2

B:-Maldi-ToF

C:-BACTEC System

D:-VITAL system

Correct Answer:- Option-C

Question50:-The most common fluorescent stain used for identifying fungal elements from clinical specimens is

A:-Auramine-Rhodamine

B:-Acridine Orange

C:-Rhodamine B

D:-Calcofluorwhite

Correct Answer:- Option-D

Question51:-Which of the following statement about dimorphic fungi is TRUE ?

A:-They grow as molds at 37°C and yeasts at 25°C

B:-They grow as yeasts at 37°C and molds at 25°C

C:-They do not sporulate invitro

D:-They need cycloheximide for their optimal growth

Correct Answer:- Option-B

Question52:-In fungal diagnosis, what is the significance of using Potato Dextrose agar ?

A:-Inhibits bacterial growth

B:-Selectively isolates dermatophytes

C:-Enhances yeast colony growth

D:-Enhances sporulation and pigmentation of fungi

Correct Answer:- Option-D

Question53:-Immunocompromised persons suffer from several fungal diseases. Which one of the following is not frequently associated ?

A:-Cryptococcus neoformans

B:-Aspergillus fumigatus

C:-Malassezia furfur

D:-Mucor species

Correct Answer:- Option-C

Question54:-'Rose gardener's disease' or 'Rose thorn disease', a sub-cutaneous mycosis is caused by

A:-Sporothrix

B:-Cryptococcus

C:-Histoplasma

D:-Tinea

Correct Answer:- Option-A

Question55:-'Negri bodies' are pathognomonic for the viral infection caused by

A:-Measles

B:-Influenza

C:-Rabies

D:-Varicella

Correct Answer:- Option-C

Question56:-In serology, the marker used to monitor the response to treatment in chronic hepatitis B infection is

A:-HBsAg

B:-Anti HBs

C:-HBeAg

D:-Anti HBcIgM

Correct Answer:- Option-C

Question57:-The genome structure of SARS-CoV-2 virus is

A:-Double stranded RNA

B:-Single stranded positive sense RNA

C:-Double stranded DNA

D:-Single stranded negative sense RNA

Correct Answer:- Option-B

Question58:-Name the virus associated with the development of Burkitt's lymphoma

A:-Epstein-Barr virus

B:-Cytomegalo virus

C:-Human Papilloma virus

D:-Hepatitis C virus

Correct Answer:- Option-A

Question59:-Viruses that contain two complete copies of positive strand RNA and the enzyme reverse transcriptase are

A:-Enteroviruses

B:-Reoviruses

C:-Togaviruses

D:-Retroviruses

Correct Answer:- Option-D

Question60:-Creutzfeldt-Jakob disease (CJD) is caused by

A:-Prions

B:-Virions

C:-RNA virus

D:-DNA virus

Correct Answer:- Option-A

Question61:-The ingredient of chromic acid is

A:-Acetic acid

B:-Sulphuric acid

C:-Formic acid

D:-Nitric acid

Correct Answer:- Option-B

Question62:-While calibrating volumetric glass wares, we use this equation

A:- $V=M/D$

B:- $V=nRT/P$

C:- $V=W/P$

D:- $PV=K$

Correct Answer:- Option-A

Question63:-Which one is a primary standard chemical ?

A:-Sodium hydroxide

B:-Hydrochloric acid

C:-Sodium carbonate

D:-Potassium permanganate

Correct Answer:- Option-C

Question64:-All the chemicals are corrosive except

A:-Sulphuric acid

B:-Potassium hydroxide

C:-Ethanol

D:-Phenol

Correct Answer:- Option-C

Question65:-Impurities still remain in the distilled water are/is

A:-Nonvolatile substances

B:-Volatile substances

C:-Both 1 and 2

D:-None

Correct Answer:- Option-B

Question66:-Serum Creatinine is expressed in this SI unit

A:-Micro moles / Litre

B:-Milli moles / Litre

C:-Mole / Litre

D:-None

Correct Answer:- Option-A

Question67:-0.1 N Hydrochloric Acid is equivalent to _____M HCl.

A:-0.001

B:-0.01

C:-0.1

D:-None

Correct Answer:- Option-C

Question68:-To estimate Serum electrolytes, we can collect blood sample in

A:-EDTA

B:-Lithium heparin

C:-Oxalate mixture

D:-None

Correct Answer:- Option-B

Question69:-While estimating total proteins in urine, 24 hour urine sample is preserved by adding _____of HCl.

A:-15 to 20 ml

B:-25 to 30 ml

C:-50 to 60 ml

D:-1 to 5 ml

Correct Answer:- Option-A

Question70:-Which statement is correct, when complimentary monochromatic light passes through a coloured solution ?

A:-Absorption minimum

B:-Transmission maximum

C:-Absorption is maximum

D:-None

Correct Answer:- Option-C

Question71:-The radioactive isotope Tritium undergo Beta decay with a half life of 12.5 years. If we keep 10 grams of pure Tritium sample. How much of it will remain after 25 years ?

A:-5 grams

B:-1 gram

C:-2.5 grams

D:-none

Correct Answer:- Option-C

Question72:-Which is/are not included in the buffer solution ?

A:-Acetic acid and Sodium acetate

B:-Sodium chloride and Hydrochloric acid

C:-Ammonium hydroxide and Ammonium chloride

D:-Both 2 and 3

Correct Answer:- Option-B

Question73:-Find out the reason of decreased anion gap in blood.

A:-Diabetic ketoacidosis

B:-Ingestion of Methanol

C:-Low level of albumin

D:-Both 1 and 3

Correct Answer:- Option-C

Question74:-Read carefully statements 1 and 2 below and answer

1. The digestive secretion bile contain cholesterol

2. Some proteins are absorbed unchanged in our body

A:-both are wrong

B:-both are right

C:-1 is wrong

D:-2 is wrong

Correct Answer:- Option-B

Question75:-After lead poisoning, a person experience abdominal pain and neurological problems resembling acute attack of prphyrria. The enzyme in porphyrin pathway inhibited by lead is

A:-ALA Synthase

B:-ALA Dehydratase

C:-PBG Deaminase

D:-UPG Decarboxylase

Correct Answer:- Option-B

Question76:-All the following statements about acute intermittent porphyria are true, except

A:-Caused due to deficiency of enzyme PBG Deaminase

B:-ALA and PBG are excreted in large amounts

C:-Cause photosensitivity and cutaneous leison

D:-Photosensitivity do not occur as the porphyrins are not produced in excess

Correct Answer:- Option-C

Question77:-Coenzyme A contain the following vitamin

A:-Folic acid

B:-Pantothenic acid

C:-Ascorbic acid

D:-Niacinamide

Correct Answer:- Option-B

Question78:-To ensure first order kinetic reaction, which of the following is most suitable ?

A:-The substrate concentration must be low compared to K_m

B:-The substrate concentration must be high compared to K_m

C:-The substrate concentration and K_m value are equal

D:-Independent of substrate concentration

Correct Answer:- Option-A

Question79:-What is/are wrong about Isoenzymes ?

A:-They catalyze same reaction

B:-Amino acid sequence are same

C:-Different kinetic parameters

D:-None

Correct Answer:- Option-B

Question80:-Lactate Dehydrogenase isoenzyme predominantly seen in lungs is

A:-LDH 1

B:-LDH 2

C:-LDH 3

D:-LDH 4

Correct Answer:- Option-C

Question81:-Regan isoenzyme is a variant of

A:-Acid phosphatase

B:-CPK

C:-LDH

D:-Alkaline phosphatase

Correct Answer:- Option-D

Question82:-Which of the following is not a hormone of hypothalamus ?

A:-GnRH

B:-Epinephrine

C:-Vassopressin

D:-Oxytocin

Correct Answer:- Option-B

Question83:-Recombinant DNA technology has been successfully applied to make important proteins used in the treatment of human diseases, like

A:-Insulin

B:-Glycoside

C:-Intestinal juice

D:-Glucose

Correct Answer:- Option-A

Question84:-The blotting technique used for isolation and study of DNA molecule is

A:-Western Blotting

B:-Northern Blotting

C:-Southern Blotting

D:-None of the above

Correct Answer:- Option-C

Question85:-_____ is the procedure of collection of synovial fluid.

A:-Amniocentesis

B:-Arthrocentesis

C:-LP

D:-FNAC

Correct Answer:- Option-B

Question86:-What is the primary cause of uric acid stones ?

A:-Hypercalcemia

B:-Hyperoxaluria

C:-Magnesium deficiency

D:-Low urinary pH

Correct Answer:- Option-D

Question87:-Which of the following reagents is specifically used in the urinary screening test to detect phenylketonuria by identifying excess phenylpyruvic acid in urine ?

A:-Sodium nitroprusside

B:-Ferric chloride

C:-2,4-Dinitrophenylhydrazine (DNPH)

D:-Benedict's solution

Correct Answer:- Option-B

Question88:-Which of the following techniques is most directly associated with

somatic cell nuclear transfer (SCNT) in cloning ?

A:-Replacement of the oocyte nucleus with a somatic cell nucleus

B:-Injection of donor DNA into a fertilized zygote

C:-Transfection of a gene construct into somatic cells

D:-Fusion of multiple embryonic stem cells to form a hybrid embryo

Correct Answer:- Option-A

Question89:-Which of the following statements are correct regarding gastric juice ?

1. HCl in gastric juice activates pepsinogen to pepsin

2. The acidity of gastric juice is measured by titration with sodium hydroxide

A:-Only 1

B:-Only 2

C:-Both 1 and 2

D:-Both are incorrect

Correct Answer:- Option-C

Question90:-The pH used for serum protein electrophoresis in agarose gel is

A:-9

B:-8.6

C:-7.5

D:-6.8

Correct Answer:- Option-B

Question91:-In which type of chromatography is an inert gas, such as helium or nitrogen, used as the mobile phase ?

A:-Ion-Exchange Chromatography

B:-Gas Chromatography

C:-Paper Chromatography

D:-Affinity Chromatography

Correct Answer:- Option-B

Question92:-What chemical is used for the direct derivatization of amino acids in urine samples ?

A:-Dabsyl chloride

B:-Ethanol

C:-Sodium acetate

D:-Phenylalanine

Correct Answer:- Option-A

Question93:-What is the primary purpose of a Levey-Jennings chart in quality control ?

A:-To compare test results with other laboratories

B:-To identify preanalytical variables

C:-To measure sensitivity and specificity

D:-To graphically monitor the consistency of laboratory test performance over time

Correct Answer:- Option-D

Question94:-What is a key limitation of screening tests in toxicology ?

A:-They are too expensive for routine use

B:-They cannot detect drugs in biological systems

C:-They may produce false positives

D:-They provide highly specific and accurate results

Correct Answer:- Option-C

Question95:-Which of the following is not a blood collection method ?

A:-Capillary puncture

B:-Arterial puncture

C:-Vein puncture

D:-None of the above

Correct Answer:- Option-D

Question96:-_____applies information technology and software to manage and optimize laboratory operations and data management.

A:-Laboratory informatics

B:-Biotechnology

C:-Instrumentation

D:-IT

Correct Answer:- Option-A

Question97:-We rarely suffer twice from such diseases as measles, mumps, chickenpox and whooping cough due to_____

A:-Native immunity

B:-Innate immunity

C:-Immunological memory

D:-Vaccine

Correct Answer:- Option-C

Question98:-_____is a fundamental tool of clinical immunology and is used as an initial screen for HIV detection.

A:-LA

B:-ELISA

C:-Precipitation

D:-CFT

Correct Answer:- Option-B

Question99:-High levels of GGT in your blood may be a sign of_____ disease.

A:-Kidney

B:-Heart

C:-Blood

D:-Liver

Correct Answer:- Option-D

Question100:-One disadvantage of sequential multiple analyser is_____

A:-Only 6 to 12 fixed test determinations can be done per hour

B:-Only one person can programme the machine

C:-A single test result cannot be obtained individually

D:-Sensitivity is low

Correct Answer:- Option-A