

PROVISIONAL ANSWER KEY

Question 105/2024/OL

Paper Code:

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Code:

Exam: Blood Bank Technician Grade I

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Department Health Services

Question1:-Color of the label used for Autologous transfusion is

A:-Red

B:-Yellow

C:-Green

D:-Blue

Correct Answer:- Option-C

Question2:-Standard blood administration set has filter size of

A:-20-40 microns

B:-170-260 microns

C:-300-350 microns

D:-10-20 microns

Correct Answer:- Option-B

Question3:-Transfusion of Autologous blood can cause all the following reactions, except

A:-Non-immune hemolytic transfusion reaction

B:-Transfusion Transmitted Bacterial Infection

C:-Red cell alloimmunization

D:-Febrile non-hemolytic transfusion reaction

Correct Answer:- Option-C

Question4:-Minimum weight required for Apheresis blood donor is

A:-45 kg

B:-50 kg

C:-55 kg

D:-60 kg

Correct Answer:- Option-B

Question5:-Used surgical mask should be discarded in

A:-Yellow colored bag

B:-Red colored bag

C:-Green colored bag

D:-White colored bag

Correct Answer:- Option-A

Question6:-Advantages of Autologous blood transfusion are all except

A:-No need for cross-matching

B:-Less chance of transfusion reactions

C:-It can be used as an allogeneic transfusion if not transfused as autologous transfusion

D:-Can help improve blood inventory

Correct Answer:- Option-C

Question7:-Apheresis can be performed using the following equipment

A:-Refrigerated centrifuge

B:-Cell separator

C:-Automated Component extractor

D:-Sterile Connecting Device

Correct Answer:- Option-B

Question8:-Irradiation of blood components helps in preventing

A:-Graft-vs-Host disease

B:-Transfusion Related Acute Lung Injury

C:-Acute Hemolytic Transfusion Reaction

D:-Red Cell Alloimmunization

Correct Answer:- Option-A

Question9:-Approved methods of screening HIV in donated blood units in a Blood Centre are all, except

A:-ELISA

B:-Rapid

C:-Western Blot

D:-Chemiluminescence

Correct Answer:- Option-C

Question10:-License of Blood Bank is given by

A:-State Blood Transfusion Council

B:-State Red Cross

C:-State Drug Controller

D:-Director Medical Service

Correct Answer:- Option-C

Question11:-Which one of these is not a blood component?

A:-Platelets

B:-Plasma

C:-Granulocytes

D:-Dendritic cells

Correct Answer:- Option-D

Question12:-Which anticoagulant is used in blood bags for blood collection and storage?

A:-Sodium citrate

B:-Heparin

C:-Ethylene Di-amine Tetra-acetic acid

D:-Sodium oxalate

Correct Answer:- Option-A

Question13:-Cryoprecipitate contains all except

A:-Fibrinogen

B:-Factor VIII

C:-Factor X

D:-Factor XIII

Correct Answer:- Option-C

Question14:-A healthy male donor can donate blood every

A:-2 months

B:-3 months

C:-4 months

D:-6 months

Correct Answer:- Option-B

Question15:-Fluid compatible with blood are all, except

A:-Normal saline

B:-Dextrose-saline

C:-Plasmalyte

D:-5% Albumin

Correct Answer:- Option-B

Question16:-The best method for leucoreduction is

A:-Washing

B:-Freezing

C:-Buffy coat removal

D:-Filtration

Correct Answer:- Option-D

Question17:-National Voluntary Blood Donation day is celebrated on

A:-1st April

B:-1st July

C:-1st October

D:-1st December

Correct Answer:- Option-C

Question18:-Normal adult hemoglobin is

A:-Hemoglobin A

B:-Hemoglobin C

C:-Hemoglobin F

D:-Hemoglobin S

Correct Answer:- Option-A

Question19:-Blood collected in CPDA anticoagulant-preservative solution can be stored for a period of

A:-21 days

B:-28 days

C:-35 days

D:-42 days

Correct Answer:- Option-C

Question20:-Red blood cells have a life span of

A:-80 days

B:-100 days

C:-120 days

D:-150 days

Correct Answer:- Option-C

Question21:-Blood components are prepared by the principle of

A:-Centrifugation

B:-Adsorption

C:-Filtration

D:-Chemical treatment

Correct Answer:- Option-A

Question22:-Washing of Red cells is done by

A:-5% Dextrose

B:-Ringer's lactate

C:-Normal saline

D:-Double distilled water

Correct Answer:- Option-C

Question23:-Liquid portion of blood after a clot is formed is called

A:-Plasma

B:-Serum

C:-Lymph

D:-Buffy coat

Correct Answer:- Option-B

Question24:-ABO blood group was discovered by

A:-Weiner

B:-Landsteiner

C:-Coombs

D:-Pasteur

Correct Answer:- Option-B

Question25:-Immunodominant sugar of blood group O is:

A:-D-galactosamine

B:-L-fucose

C:- α -2-L-fucosyltransferase

D:- α -3-D-galactosyltransferase

Correct Answer:- Option-B

Question26:-In a normal adult with AB blood group, of the following, which is the most common antigen on red cells?

A:-A antigen

B:-B antigen

C:-O antigen

D:-H antigen

Correct Answer:- Option-B

Question27:-What will be the phenotype of an individual with AO genotype, Hh and sese genes?

A:-A blood group, secretor

B:-A blood group, non-secretor

C:-Bombay blood group, non-secretor

D:-Bombay blood group, secretor

Correct Answer:- Option-B

Question28:-Immunodominant sugar of blood group A2 is :

A:-D-acetyl-N-galactosamine

B:-L-fucose

C:-N-acetyl-D-galactosamine

D:- α -3-D-galactosyltransferase

Correct Answer:- Option-C

Question29:-Which of the following is predominantly IgG in nature?

A:-Anti B

B:-Anti A1

C:-Anti A,B

D:-Anti A

Correct Answer:- Option-C

Question30:-Reagent made from the seeds of Dolichos biflorus reacts with:

A:-A1B red cells

B:-A2B red cells

C:-O red cells

D:-Oh red cells

Correct Answer:- Option-A

Question31:-Bombay phenotype is inherited as an

A:-Autosomal recessive

B:-Autosomal dominant

C:-X-linked recessive

D:-X-linked dominant

Correct Answer:- Option-A

Question32:-Most common type of blood grouping discrepancy is

A:-Type IV

B:-Type III

C:-Type II

D:-Type I

Correct Answer:- Option-D

Question33:-R1R2 is Weiner nomenclature is represented in the Fischer Race nomenclature as

A:-DCe/ce

B:-DCe/DCe

C:-DCe/DcE

D:-DcE/ce

Correct Answer:- Option-C

Question34:-How are weaker-than-expected reactions with anti-D typing reagents interpreted in patients for the purpose of transfusion, in the absence of genetic testing?

A:-Rh D positive

B:-Weak D

C:-DAT positive

D:-Rh D negative

Correct Answer:- Option-D

Question35:-In a non-secretor individual with Lewis gene, the following substance may be present in secretions

A:- Le^a only

B:- Le^b only

C:-Both Le^a and Le^b

D:-Both Lu^a and Lu^b

Correct Answer:- Option-A

Question36:-Which of the following antigens are often diminished on the mother's RBCs during pregnancy?

A:-Kidd

B:-Kell

C:-MNSs

D:-Lewis

Correct Answer:- Option-D

Question37:-Which of the following are NOT antithetical antigens?

A:- JK^a and JK^b

B:-I and i

C:-M and N

D:- J_S^a and J_S^b

Correct Answer:- Option-B

Question38:-Which of the following antibodies does not react with papain treated red cells?

A:-Duffy

B:-Kidd

C:-Rh

D:-Kell

Correct Answer:- Option-A

Question39:-In the Hierarchy pyramid of documentation system, the level I is

A:-Quality Manual

B:-Process description document

C:-Standard Operating Procedure

D:-Records, Labels and Forms

Correct Answer:- Option-A

Question40:-In India, the blood centres shall maintain all the records for a minimum period of

A:-Two years

B:-Not defined

C:-Ten years

D:-Five years

Correct Answer:- Option-D

Question41:-Centralized blood centre information system developed by Ministry of Health and Family Welfare, Government of India, is

A:-Donor Vigil

B:-National Blood cell

C:-e-Raktkosh

D:-Hemovigilance

Correct Answer:- Option-C

Question42:-As part of Quality requirements, pH should be tested for all the following, EXCEPT

A:-Copper Sulphate

B:-LISS

C:-Platelet

D:-Distilled Water

Correct Answer:- Option-A

Question43:-All the following quality criteria of antisera reagents should be checked daily EXCEPT

A:-Appearance

B:-Avidity

C:-Reactivity

D:-Specificity

Correct Answer:- Option-C

Question44:-Which among the following reagents have "Purity" as a parameter for quality requirements?

A:-Low Ionic strength Solution

B:-Bovine Serum Albumin

C:-Distilled water

D:-Normal saline

Correct Answer:- Option-B

Question45:-For a buffy coat derived leucocyte depleted pooled (Pooling of 6 units) platelet concentrate, what should be the platelet count to meet the quality

requirements?

A:-> 2×10^{11}

B:-> 3×10^{10}

C:-> 2×10^{10}

D:-> 3×10^{11}

Correct Answer:- Option-A

Question46:-For "Avidity" testing of reagents as a quality requirement criterion, all the following are true EXCEPT

A:-Avidity testing is done by Slide methods

B:-40-50% of red cell suspension is used for Avidity testing

C:-Measures time and strength of agglutination microscopically

D:-Avidity testing should be done daily and for each new lot

Correct Answer:- Option-C

Question47:-A Blood centre has collected 4000 units of whole blood in a month. For meeting the quality requirements of blood components, how many of the tested units should fulfil the quality requirements?

A:-3000 units

B:-3 units

C:-300 units

D:-30 units

Correct Answer:- Option-D

Question48:-All the following types of red cell are required for checking the titre and avidity of Anti-AB antisera EXCEPT

A:-O

B:-B

C:-A2

D:-AB

Correct Answer:- Option-D

Question49:-Which of the following is the anticoagulant of choice in coagulation studies?

A:-Trisodium citrate

B:-EDTA

C:-Potassium oxalate

D:-Double oxalate

Correct Answer:- Option-A

Question50:-Normal red cell count at birth is :

A:- $2 \pm 1 \times 10^{12} /L$

B:- $8 \pm 1 \times 10^{12} /L$

C:- $6 \pm 1 \times 10^{12} /L$

D:- $4 \pm 1 \times 10^{12} /L$

Correct Answer:- Option-C

Question51:-Which of the following is the original reagent used in cyanmethaemoglobin method for estimation of Haemoglobin concentration in blood?

A:-Lauryl Sulphate

B:-Drabkin reagent

C:-Sodium azide

D:-All of the above

Correct Answer:- Option-B

Question52:-Which of the following is a diluting fluid used for absolute eosinophil count?

A:-Hayem's fluid

B:-Hingleman's solution

C:-Gower's solution

D:-Normal saline

Correct Answer:- Option-B

Question53:-In Indirect Coomb's test which part of blood sample is tested:

A:-RBCs

B:-WBCs

C:-Serum

D:-All of the above

Correct Answer:- Option-C

Question54:-What is the normal size of Monocytes?

A:-12-14 μm

B:-7-9 μm

C:-15-18 μm

D:-19-26 μm

Correct Answer:- Option-C

Question55:-Which of the following is/are true about Plasmodium Vivax?

A:-Delicate rings with small chromatin dot

B:-Amoeboid forms with central vacuoles and light blue cytoplasm

C:-Crescent shaped Gametocytes

D:-Multiple rings and accolé forms

Correct Answer:- Option-B

Question56:-Which of the following causes false negative Antiglobulin test?

- A:-Failure to wash the red cells properly
- B:-Excessive agitation
- C:-Use of impotent antisera
- D:-All of the above

Correct Answer:- Option-D

Question57:-A positive Direct Antiglobulin test is seen in :

- A:-Haemolytic disease of newborn
- B:-Microcytic hypochromic anaemia
- C:-Megaloblastic anaemia
- D:-All of the above

Correct Answer:- Option-A

Question58:-Which of the following samples can be used for performing Flow Cytometry?

- A:-Peripheral blood
- B:-CSF
- C:-FNA
- D:-All of the above

Correct Answer:- Option-D

Question59:-What of the following is NOT a method of ABO& D blood grouping?

- A:-Tube and Slide test
- B:-Liquid phase microplate method
- C:-Column agglutination techniques
- D:-Serum electrophoresis

Correct Answer:- Option-D

Question60:-Poly specific Anti human globulin sera contains:

- A:-Human IgG & C_{3d}
- B:-Human IgE & C_{3d}
- C:-Human IgG or $C_{3b}-C_{3d}$
- D:-Human IgM or C_{3d}

Correct Answer:- Option-A

Question61:-Which of the following cause discrepancies in ABO/D grouping?

- A:-Cold auto agglutination and cold reacting alloantibodies
- B:-Rouleaux
- C:-Invitro bacterial contamination
- D:-All of the above

Correct Answer:- Option-D

Question62:-Which of the following is not an application of Indirect Coomb's test?

A:-Cross matching

B:-Antibody screening and identification

C:-Identification of Heinz bodies

D:-All of the above

Correct Answer:- Option-C

Question63:-Advantages of Pre storage leucoreduction: it reduces the chance of all except

A:-Febrile non hemolytic transfusion reaction

B:-Cytomegalovirus transmission

C:-Allo immunization

D:-Transfusion Associated Circulatory overload

Correct Answer:- Option-D

Question64:-All the following are true regarding the metabolic complications of massive transfusion except

A:-Hypocalcemia

B:-Hypomagnesemia

C:-Hyperkalemia

D:-Hypercalcemia

Correct Answer:- Option-D

Question65:-Irradiation of blood is done to prevent

A:-Transfusion Associated Graft Versus Host Diseases

B:-Transfusion Transmitted HIV

C:-Transfusion Related Acute Lung Injury

D:-All the above

Correct Answer:- Option-A

Question66:-If O Negative FFP is not available in Blood Bank your next choice FFP is of group

A:-O positive

B:-A Negative

C:-B Negative

D:-None of the above

Correct Answer:- Option-A

Question67:-Transfusion Associated Bacterial Sepsis is more common with the transfusion of the following products

A:-Packed Red Blood cells

B:-Cryo Poor plasma

C:-Random Donor Platelets

D:-Fresh Frozen Plasma

Correct Answer:- Option-C

Question68:-The objectives of the recipient Hemovigilance program is all except

A:-Monitor Transfusion Reactions

B:-Create awareness amongst health care professionals

C:-To take punitive action

D:-Advice CDSCO for safety - related regulatory decisions

Correct Answer:- Option-C

Question69:-When Major Cross matching is done by immediate spin method using patient serum and donor cells incompatibility can occur when there is

A:-ABO mismatch

B:-Rouleaux formation

C:-Cold antibodies

D:-All the above

Correct Answer:- Option-D

Question70:-Elution techniques are useful for

A:-Investigation of a positive DCT result

B:-Investigation of a positive TTI result

C:-Both (1) and (2)

D:-None of the above

Correct Answer:- Option-A

Question71:-After issuing blood products a donor unit segment has to be retained in Blood Centre; It should be kept for a minimum period of

A:-Three months

B:-Three weeks

C:-One week

D:-Three days

Correct Answer:- Option-C

Question72:-Reagent Red Cells used in antibody screening

A:-Belong to Group A type

B:-Contains all commonly encountered clinically significant antigens

C:-Have a shelf life of one year

D:-All the above

Correct Answer:- Option-B

Question73:-Which of the following are IgG type of antibodies?

A:-Anti Duffy

B:-Anti Kell

C:-Anti D

D:-All the above

Correct Answer:- Option-D

Question74:-All the following are true regarding Kell blood group system except

A:-After ABO and Rh antigens, the Kell antigen is the most immunogenic RBC antigen

B:-Naturally occurring Kell antibodies can be produced after E.coli infection

C:-k(KEL 2) is a high frequency antigen

D:-Kell antigens are not expressed on fetal red cells

Correct Answer:- Option-D

Question75:-Transfusion Related Acute Lung Injury is common with the transfusion of

A:-Transfusion of male donor plasma

B:-Transfusion of multiparous female donor plasma

C:-Transfusion of male donor PRC

D:-Transfusion of multiparous female donor PRC

Correct Answer:- Option-B

Question76:-Which of the following is correct regarding transfusion of whole blood in a neonate?

(i) Mother's sample is required for cross matching.

(ii) If Mother's sample is not available 'O' group unit with Rh D compatible with the infant can be selected.

(iii) If Mother's sample is not available baby group can be selected.

A:-(i) only correct

B:-(i) and (ii) correct

C:-(i) and (iii) correct

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

Correct Answer:- Option-B

Question77:-The most common opportunistic infection that occurs in HIV infected people is

A:-Legionellosis

B:-Tuberculosis

C:-Histoplasmosis

D:-Toxoplasmosis

Correct Answer:- Option-B

Question78:-Which is the best diagnostic tool to detect HIV during window period?

A:-Viral culture

B:-ELISA

C:-Western blot

D:-RT-PCR

Correct Answer:- Option-D

Question79:-The gold standard test for the diagnosis of Hepatitis C virus infection is

A:-Lateral flow assay

B:-ELISA

C:-HCV RNA detection

D:-Immunoblot assay

Correct Answer:- Option-C

Question80:-All the following are specific tests for Syphilis except

A:-*T. pallidum* Immobilization test

B:-Rapid Plasma Reagin test

C:-Fluorescent Treponemal Antibody - Absorption Test

D:-*T. pallidum* Hemagglutination Assay

Correct Answer:- Option-B

Question81:-Which type of cells are most often infected by HIV?

A:-B lymphocytes

B:-Platelets

C:-CD4 + T lymphocytes

D:-CD8 + T lymphocytes

Correct Answer:- Option-C

Question82:-Which of the following hepatitis virus is DNA virus?

A:-Hepatitis A virus

B:-Hepatitis B virus

C:-Hepatitis C virus

D:-Hepatitis E virus

Correct Answer:- Option-B

Question83:-Which of the following markers is first to appear in blood after infection with Hepatitis B virus?

A:-HBsAg

B:-HBeAg

C:-HBcAg

D:-Anti-HBs

Correct Answer:- Option-A

Question84:-The infective form of malarial parasite is

- A:-Merozoite
- B:-Sporozoite
- C:-Gametocyte
- D:-Hypnozoite

Correct Answer:- Option-B

Question85:-Gametocytes of which plasmodium species are sickle shaped?

- A:-*Plasmodium vivax*
- B:-*Plasmodium falciparum*
- C:-*Plasmodium malariae*
- D:-*Plasmodium ovale*

Correct Answer:- Option-B

Question86:-Which of the following Hepatitis viruses may cause Hepatic carcinoma?

- A:-Hepatitis A virus
- B:-Hepatitis C virus
- C:-Hepatitis E virus
- D:-Hepatitis G virus

Correct Answer:- Option-B

Question87:-Which of the following markers when positive indicate high infectivity of Hepatitis B virus?

- A:-HBsAg
- B:-Anti-HBs
- C:-HBeAg
- D:-HBcAg

Correct Answer:- Option-C

Question88:-Which of the following Hepatitis viruses can be transmitted by sexual route?

- A:-Hepatitis A virus
- B:-Hepatitis C virus
- C:-Hepatitis E virus
- D:-All of the above

Correct Answer:- Option-B

Question89:-Which stage of Syphilis is characterized by absence of clinical manifestations, positive serological tests and normal CSF findings?

- A:-Primary Syphilis
- B:-Secondary Syphilis

C:-Latent Syphilis

D:-Tertiary Syphilis

Correct Answer:- Option-C

Question90:-Pernicious malaria is seen in infection with

A:-*Plasmodium vivax*

B:-*Plasmodium malariae*

C:-*Plasmodium ovale*

D:-*Plasmodium falciparum*

Correct Answer:- Option-D

Question91:-Causes of a positive Direct Antiglobulin Test (DAT/DCT) result are

A:-Autoantibodies to intrinsic red cell antigens

B:-Passively acquired alloantibodies from donor plasma

C:-Hemolytic Disease of Fetus and Newborn

D:-All of the above

Correct Answer:- Option-D

Question92:-In Cold Agglutinin Syndrome (CAS) Direct Antiglobulin Test (DCT) will be positive due to

A:-IgG

B:-IgG + C3

C:-C3 only

D:-None of the above

Correct Answer:- Option-C

Question93:-Donath - Landsteiner test is the diagnostic test for

A:-Paroxysmal Cold Hemoglobinuria

B:-Hemolytic Disease of Fetus and Newborn

C:-Drug Induced Hemolytic Anemia

D:-Warm Auto Immune Hemolytic Anemia

Correct Answer:- Option-A

Question94:-Hemolytic Anemia is often demonstrated in a blood smear by

A:-Macrocytosis or evidence of young cell population

B:-Spherocytosis or evidence of cell membrane damage

C:-Both (1) and (2)

D:-None of the above

Correct Answer:- Option-C

Question95:-Transfusion of a blood component must be completed within

A:-8 hours of the start of transfusion

B:-10 hours of the start of transfusion

C:-2 hours of the start of transfusion

D:-4 hours of the start of transfusion

Correct Answer:- Option-D

Question96:-Which of the following is the correct statement regarding platelet transfusion?

A:-ABO matching is not always required for platelet transfusions

B:-Platelet do not express Rh antigens

C:-Platelet express ABH antigens on their surface

D:-All of the above statement are correct

Correct Answer:- Option-D

Question97:-Indications for cryoprecipitate transfusions are all except

A:-Acquired hypofibrinogenemic conditions such as liver transplantation and postpartum hemorrhage

B:-congenital factor XIII deficiency

C:-Severe Iron deficiency anemia

D:-Von Willebrand factor deficiency

Correct Answer:- Option-C

Question98:-Most common cause of hemolytic disease of fetus and newborn is

A:-ABO incompatibility between fetus and mother

B:-RHD incompatibility between mother and fetus

C:-Anti-C antibody in mother

D:-Anti-E antibody in mother

Correct Answer:- Option-A

Question99:-Blood units selected for intrauterine transfusion should be all except

A:-Irradiated

B:-Leukocyte reduced

C:-More than 7 days old

D:-Group O RhD negative

Correct Answer:- Option-C

Question100:-Relative concentration of Anti-D in maternal serum which can cause HDFN is determined by

A:-Compatibility testing

B:-Antibody titration

C:-Direct antiglobulin test (DCT)

D:-Peripheral smear examination

Correct Answer:- Option-B