

FINAL ANSWER KEY

Question Paper Code:	52/2026/OL
Category Code:	272/2025, 315/2025, 474/2025
Exam:	Blood Bank Technician
Date of Test	01-04-2026
Department	Health Services

Question1:-The ratio of anticoagulant CPDA solution to collected blood in blood bag is

A:-1 : 7

B:-1 : 5

C:-1 : 8

D:-1 : 14

Correct Answer:- Option-A

Question2:-Anticoagulant preservatives available for whole blood collection and storage

A:-Acid citrate dextrose

B:-Citrate phosphate dextrose

C:-Citrate phosphate dextrose adenine

D:-All of the above

Correct Answer:- Option-D

Question3:-In additive solution SAGM RBC can be stored up to

A:-30 days

B:-35 days

C:-42 days

D:-49 days

Correct Answer:- Option-C

Question4:-As per Donor Selection Criteria (by NACO 2017) following blood donors are permanently deferred, except

A:-History of Leprosy

B:-History of Tuberculosis

C:-h/o Syphilis

D:-h/o HIV infection

Correct Answer:- Option-B

Question5:-Expiry period of Apheretic platelet

A:-7 days

B:-35 days

C:-5 days

D:-24 hours

Correct Answer:- Option-C

Question6:-Physical changes in stored RBC include

A:-Change in shape from disc to spherical

B:-Increase osmotic fragility

C:-Increase in deformability

D:-Both 1 and 2

Correct Answer:- Option-D

Question7:-Accepted temperature range for blood transportation is

A:-2 - 6°C

B:-2 - 8°C

C:-2 - 10°C

D:-None of the above

Correct Answer:- Option-C

Question8:-A platelet additive solution is

A:-Intersol

B:-Adsol

C:-Optisol

D:-SAGM

Correct Answer:- Option-A

Question9:-Methods of Leucoreduction are

A:-Filtration

B:-Washing of red cells with saline

C:-Both 1 and 2

D:-None of the above

Correct Answer:- Option-C

Question10:-Benefit of prestorage leucofiltration

A:-Causes immunomodulation

B:-Causes bacterial contamination

C:-Lower the incidence of Febrile Non Haemolytic Transfusion Reaction (FNHTR)

D:-Increases the incidence of allo immunization

Correct Answer:- Option-C

Question11:-Cryoprecipitate is prepared from

A:-Platelet Rich Plasma

B:-Fresh Frozen Plasma

C:-Single Donor Plasma

D:-None of the above

Correct Answer:- Option-B

Question12:-Irradiated blood products are indicated to prevent

A:-Haemolytic transfusion reactions

B:-Transfusion transmitted infections

C:-Anaphylaxis

D:-Transfusion Associated Graft Versus Host Disease (TA-GVHD)

Correct Answer:- Option-D

Question13:-Indication for granulocyte transfusion

A:-Neonatal sepsis unresponsive to antibiotic therapy

B:-Neutropenia count < 500 PMN / μ l

C:-Bone marrow showing myeloid hyperplasia

D:-Both 1 and 2

Correct Answer:- Option-D

Question14:-Dosage of platelet transfusion in children of ≥ 10 kg body weight

A:-One unit / 10 kg body weight

B:-One unit / 2.5 kg body weight

C:-One unit / kg body weight

D:-5 - 10 ml / kg body weight

Correct Answer:- Option-A

Question15:-Haemonetics MCS+ is an example of _____ type of Apheresis machine.

A:-Intermittent flow centrifugation

B:-Continuous flow centrifugation

C:-Manual separator

D:-None of the above

Correct Answer:- Option-A

Question16:-Minimum platelet count required for a platelet pheresis donor

A:-2,00,000 / μ l

B:-1,00,000 / μ l

C:-1,50,000 / μ l

D:-50,000 / μ l

Correct Answer:- Option-C

Question17:-A plasmapheresis donor can donate plasma

A:-Once in 7 days

B:-Twice in 7 days

C:-Three times in 28 days

D:-Once in 28 days

Correct Answer:- Option-B

Question18:-Therapeutic plasma exchange is done for

A:-Removal of antibodies

B:-Removal of immune complexes

C:-Removal of toxins

D:-All of the above

Correct Answer:- Option-D

Question19:-Age limit for autologous donation.

A:-18 - 65 years

B:-18 - 50 years

C:-No age limit

D:-16 - 50 years

Correct Answer:- Option-C

Question20:-To provide blood for patients who refuses blood from other donors, preferred type of donation is

A:-Allogenic donation

B:-Homologous donation

C:-Autologous donation

D:-Apheretic donation

Correct Answer:- Option-C

Question21:-Recovery of blood from surgical drains followed by reinfusion with or without processing is

A:-Post operative blood salvage

B:-Intra operative blood salvage

C:-Acute normovolemic hemodilution

D:-Acute isovolemic hemodilution

Correct Answer:- Option-A

Question22:-Disadvantages of autologous transfusion are the following except

A:-Does not alter the risk of bacterial contamination

B:-Does not alter the risk of clerical errors with ABO incompatibility

C:-Results wastage of blood if not transfused

D:-Risk of disease transmission is there

Correct Answer:- Option-D

Question23:-'Leap frog technique' is used in

A:-Acute isovolemic hemodilution method

B:-Pre operative autologous donation

C:-Intra operative blood salvage

D:-Post operative blood salvage

Correct Answer:- Option-B

Question24:-Advantages of practicing acute isovolemic / normovolemic hemodilution method in open heart surgery

A:-Reduces red cell loss during surgery

B:-Improves microcirculatory blood flow

C:-Minimise the requirement of homologous blood transfusion

D:-All of the above

Correct Answer:- Option-D

Question25:-Carbohydrate antigens on red blood cells are

A:-ABO blood group antigens

B:-Rh blood group antigens

C:-Kell blood group antigens

D:-Duffy blood group antigens

Correct Answer:- Option-A

Question26:-Rouleaux formation that resembles agglutination can be identified by

A:-Using anti kell antibody

B:-Using anti H lectin

C:-Using anti A1 lectin

D:-Using saline

Correct Answer:- Option-D

Question27:-The antibodies that cause haemolytic disease of new born are

A:-Rh antibody

B:-Kell antibody

C:-Kidd antibody

D:-All of the above

Correct Answer:- Option-D

Question28:-Anti A1 lectin used in blood centers is

A:-Ulex europeaus

B:-Dolichos biflorus

C:-Vicia graminea

D:-Griffonia simplicifolia

Correct Answer:- Option-B

Question29:-The antibody found in the bombay blood group individual is

A:-Anti H

B:-Anti D

C:-Anti E

D:-Anti C

Correct Answer:- Option-A

Question30:-Technical errors during blood grouping can be all except

A:-Specimen mix up

B:-Too heavy or too light red cell suspensions

C:-Failure to add reagents

D:-Presence of alloantibodies

Correct Answer:- Option-D

Question31:-Primarily Rh antibodies are of which immunoglobulin class ?

A:-IgA

B:-IgD

C:-IgG

D:-IgE

Correct Answer:- Option-C

Question32:-Reaction that you expect to see in reverse grouping (serum grouping) in a suspected bombay phenotype

A:-Reaction with O cell, A cell and B cell

B:-Reaction with O cell and A cell. No reaction with B cell

C:-Reaction with A cell and B cell. No reaction with O cell

D:-Reaction with O cell and B cell. No reaction with A cell

Correct Answer:- Option-A

Question33:-ABO blood group was discovered by

A:-Karl Landsteiner

B:-Alexander Fleming

C:-Mourant and Race

D:-Sanger

Correct Answer:- Option-A

Question34:-The specificity of auto antibody present in patients with paroxysmal cold hemoglobinuria

A:-Anti P

B:-Anti D

C:-Anti Jka

D:-Anti Fya

Correct Answer:- Option-A

Question35:-Which blood group antigen is a receptor for helicobacter pylori ?

A:-I

B:-P

C:-Leb

D:-Jkb

Correct Answer:- Option-C

Question36:-The earliest antigen to appear on the red cells in foetal life

A:-ABO antigen

B:-Rh antigen

C:-Kell antigen

D:-Diego antigen

Correct Answer:- Option-C

Question37:-Locus of Rh gene is on

A:-Chromosome 9

B:-Chromosome 19

C:-Chromosome 13

D:-Chromosome 1

Correct Answer:- Option-D

Question38:-Rh system gene is

A:-RHD and RHCE

B:-RHD and RHAG

C:-RHD and KELL

D:-RHAG and KIDD

Correct Answer:- Option-A

Question39:-Comparison of measurements performed with an instrument to those made with a more accurate instrument or standard for the purpose of detecting, reporting and eliminating errors in measurement is

A:-Validation

B:-Calibration

C:-Verification

D:-Specification

Correct Answer:- Option-B

Question40:-An unexpected occurrence that did not adversely affect the outcome but could have resulted in a serious adverse event

A:-Adverse reaction

B:-Near Miss event

C:-Sentinel event

D:-Accident

Correct Answer:- Option-B

Question41:-All the antisera and other reagents used for serological work in the blood bank should be checked

A:-Monthly

B:-Daily

C:-Weekly

D:-None of the above

Correct Answer:- Option-B

Question42:-Accrediting organisations are all except

A:-AABB

B:-The College of American Pathologists (CAP)

C:-
Code of Federal Regulations (CFR)

D:-The Joint Commission and the Foundation for the Accreditation of Cellular Therapies (FACT)

Correct Answer:- Option-C

Question43:-Operational techniques and activities used to monitor and eliminate causes of unsatisfactory performance at any stage of a process; involves sampling and testing

A:-Quality Management

B:-Quality Audit

C:-Quality Control

D:-Quality Planning

Correct Answer:- Option-C

Question44:-Types of quality control are

A:-Internal quality control

B:-External quality control

C:-All of the above

D:-None of the above

Correct Answer:- Option-C

Question45:-It is preferable to do RhD typing with anti D from _____ commercial sources.

A:-3

B:-2

C:-1

D:-4

Correct Answer:- Option-B

Question46:-Graphical method for displaying control results and evaluating whether a procedure is in control or out of control

A:-Levey Jennings chart

B:-Scatter chart

C:-Stacked bar chart

D:-Spider chart

Correct Answer:- Option-A

Question47:-The percentage of blood components to be checked for quality assurance in a big blood center is

A:-3%

B:-5%

C:-10%

D:-1%

Correct Answer:- Option-D

Question48:-The main functions of hospital transfusion committee are all except

A:-To monitor the source and supply of blood components

B:-To establish maximum surgical blood order schedule (MSBOS) for surgical procedures

C:-To promote CME programme for medical and nursing staff

D:-To prepare an international product reference database

Correct Answer:- Option-D

Question49:-The buffer used for staining of peripheral smears with leishman stain is

A:-Citrate buffer

B:-Phosphate buffer

C:-Carbonate buffer

D:-Sulphate buffer

Correct Answer:- Option-B

Question50:-Bulk dilution is done using

A:-Wintrob's pipette

B:-WBC pipette

C:-Sahli's pipette

D:-Westgren's pipette

Correct Answer:- Option-C

Question51:-The most important stage in estimation of erythrocyte sedimentation rate is

A:-Aggregation

B:-Rouleaux formation

C:-Packing

D:-Sedimentation

Correct Answer:- Option-A

Question52:-The anticoagulant which gives a bluish background when used for peripheral smear

A:-Double oxalate

B:-Trisodium citrate

C:-Ethylene diamine tetracetic acid

D:-Heparin

Correct Answer:- Option-D

Question53:-The test which can be used as an internal quality control for hemoglobin estimation is

A:-Hematocrit

B:-Erythrocyte sedimentation rate

C:-Total WBC count

D:-Blood viscosity

Correct Answer:- Option-A

Question54:-Quantitative buffy coat helps to detect

A:-Trichenella spirallis

B:-Filarial parasite

C:-Malarial parasite

D:-Schistosomiasis

Correct Answer:- Option-C

Question55:-Leucocyte common antigen is

A:-CD 5

B:-CD 20

C:-CD 3

D:-CD 45

Correct Answer:- Option-D

Question56:-The colouring agent used in anti B antisera for blood grouping

A:-Methylene blue

B:-Picric acid

C:-Toluidene blue

D:-Acridine

Correct Answer:- Option-D

Question57:-Which among the following parameters is measured directly or derived through histogram ?

A:-Mean cell volume

B:-Hematocrit

C:-Mean cell hemoglobin

D:-Mean cell hemoglobin concentration

Correct Answer:- Option-A

Question58:-Direct coombs test helps to detect

A:-Preformed antibodies

B:-Antibodies attached to RBCs

C:-Incomplete antibodies

D:-Antibodies in blood

Correct Answer:- Option-B

Question59:-Low ionic strength solution (LISS) helps to

A:-Increase the sensitivity

B:-Decrease the incubation time

C:-Both of the above

D:-Increase the specificity

Correct Answer:- Option-C

Question60:-Which test is done routinely as a part of prenatal testing ?

A:-Direct coombs test

B:-Indirect coombs test

C:-Both of the above

D:-Autoantibody assay

Correct Answer:- Option-B

Question61:-A positive coombs test can be obtained in all EXCEPT

A:-Thalassemia

B:-Chronic lymphocytic leukemia

C:-Lupus erythematosus

D:-Autoimmune hemolytic anemia

Correct Answer:- Option-A

Question62:-Blood sample for anti globulin testing is to be collected in tubes with

A:-No anticoagulant

B:-Trisodium citrate

C:-Double oxalate

D:-Ethylene diamine tetraacetic acid

Correct Answer:- Option-D

Question63:-All the following red cell antigens are denatured by treatment with proteolytic enzymes EXCEPT

A:-D antigen

B:-M antigen

C:-Fy^a antigen

D:-Ch antigen

Correct Answer:- Option-A

Question64:-'Stack of coin' appearance of red cells under microscopy is most suggestive of

A:-Agglutination

B:-Recent transfusion

C:-Rouleaux formation

D:-Contaminated blood sample tube

Correct Answer:- Option-C

Question65:-Which of the following best describes ZZAP reagent ?

A:-Dithiothreitol + Ficin

B:-Dithiothreitol + PEG

C:-PEG + Papain

D:-LISS + Ficin

Correct Answer:- Option-A

Question66:-A blood sample received in blood centre for 'type and screen' includes all the following tests EXCEPT

A:-Crossmatch test

B:-Antibody detection / screen

C:-ABO and RhD test

D:-Antibody identification

Correct Answer:- Option-A

Question67:-Blood component that should be compatible with recipients plasma for issual is

A:-Plasma

B:-Platelets

C:-Cryoprecipitated antihemophilic factor

D:-Granulocytes

Correct Answer:- Option-D

Question68:-If for a patient, ABO compatible RBC units are blood groups A / O and ABO compatible plasma units are A / AB, his most likely ABO group is

A:-AB

B:-A

C:-B

D:-O

Correct Answer:- Option-B

Question69:-Dextran-Acrylamide gel is used in

A:-Manual antihuman globulin test

B:-Column agglutination technology

C:-Solid phase red cell assays

D:-Microplate assays

Correct Answer:- Option-B

Question70:-Transfusion reaction workup in blood centre includes

- A:-Complete blood count of recipient sample
- B:-Transfusion transmitted disease screen of donor
- C:-Direct antiglobulin test of recipient sample
- D:-PT / APTT of recipient sample

Correct Answer:- Option-C

Question71:-Most common blood transfusion related adverse event seen is

- A:-Transfusion associated dyspnoea
- B:-Circulatory overload
- C:-Allergic transfusion reaction
- D:-Febrile non-hemolytic transfusion reaction

Correct Answer:- Option-D

Question72:-Adverse reactions to transfusion in India are reported in

- A:-Eraktkosh.in
- B:-Haemovigilance programme of India
- C:-Kerala state blood transfusion council
- D:-Central drugs standard control organization

Correct Answer:- Option-B

Question73:-Best way of preventing transfusion associated graft versus host disease (TAGVHD)

- A:-Irradiated blood components
- B:-Washed blood components
- C:-Leucoreduced blood components
- D:-All of the above

Correct Answer:- Option-A

Question74:-Transfusion-Transmitted Bacterial Infections (TTBI) is most commonly associated with transfusion of

A:-Whole blood

B:-Packed red blood cells

C:-Plasma

D:-Platelets

Correct Answer:- Option-D

Question75:-The blood group preferred for uncrossmatched RBC transfusion in an emergency

A:-AB negative

B:-AB positive

C:-O negative

D:-O positive

Correct Answer:- Option-C

Question76:-Treating washed RBCs to glycine acid solution at pH 3 is used for

A:-Antibody adsorption

B:-Antibody elution

C:-Antibody titration

D:-Antigen-antibody reactions

Correct Answer:- Option-B

Question77:-Approximate chance of infection with human immunodeficiency virus per exposure after a needle stick injury is

A:-0.5 - 1 %

B:-50 - 90 %

C:-25 - 30 %

D:-5 - 10 %

Correct Answer:- Option-A

Question78:-All of the following diagnostic tests are used for diagnosis of HIV infection during the window period except

A:-Demonstration of antibodies by ELISA

B:-P24 antigen ELISA

C:-Isolation of the virus by co-cultivation method

D:-DNA PCR

Correct Answer:- Option-A

Question79:-Causative agent of syphilis is

A:-Trichomonas vaginalis

B:-Chlamydia trachomatis

C:-Treponema pallidum

D:-Bordetella pertussis

Correct Answer:- Option-C

Question80:-All are true about VDRL test except

A:-It is an example of flocculation reaction

B:-Cardiolipin is the antigen used in the VDRL test

C:-Biological false positive reactions are one of the disadvantage of the VDRL test

D:-It is the specific test for diagnosing syphilis

Correct Answer:- Option-D

Question81:-The first viral marker to appear in blood after hepatitis B infection is

A:-Hepatitis B core antigen (HBcAg)

B:-Hepatitis B surface antigen (HBs Ag)

C:-Hepatitis B envelope antigen (HBeAg)

D:-Antibody to hepatitis B surface Antigen (anti-HBS)

Correct Answer:- Option-B

Question82:-Hepatitis B virus is transmitted by

A:-Blood transfusion

B:-Sexual transmission

C:-Mother to baby during birth

D:-All of the above

Correct Answer:- Option-D

Question83:-Hepatitis C virus is transmitted by

A:-Blood transfusion

B:-Through shared needles and syringes

C:-Sexual transmission

D:-All of the above

Correct Answer:- Option-D

Question84:-Infective form of plasmodium vivax is

A:-Trophozoite

B:-Schizont

C:-Sporozoite

D:-Gametocytes

Correct Answer:- Option-C

Question85:-Peripheral blood smear examination of a patient suspecting malaria clinically shows multiple ring forms, crescent-shaped gametocytes, with normal size RBCs. Which is the species of malarial parasite seen ?

A:-Plasmodium vivax

B:-Plasmodium malariae

C:-Plasmodium falciparum

D:-Plasmodium ovale

Correct Answer:- Option-C

Question86:-The definitive host of plasmodium vivax is

A:-Man

B:-Female anopheles mosquito

C:-Female aedes aegypti mosquito

D:-Male culex mosquito

Correct Answer:- Option-B

Question87:-The gold standard for confirmation of active hepatitis C virus (HCV) infection is

A:-IgG antibody ELISA

B:-Detection of HCV RNA by real-time reverse transcriptase-PCR

C:-HCV core antigen ELISA

D:-Cultivation of virus

Correct Answer:- Option-B

Question88:-Rapid Plasma Reagin test (RPR) is

A:-Used as a screening test for diagnosis of syphilis

B:-It is a diagnostic test for IgE detection

C:-It is more specific than FTA-ABS

D:-It is example of an agglutination reaction

Correct Answer:- Option-A

Question89:-The protective titer of anti-HBS antibody in the serum of an adult after receiving three doses of hepatitis B vaccination is

A:-2 - 5 mIU / ml

B:-6 - 8 mIU / ml

C:-More than 10 mIU / ml

D:-None of the above

Correct Answer:- Option-C

Question90:-According to National AIDS Control Organisation Strategy, three test format (Strategy III) is used for the diagnosis of HIV infection in

A:-Asymptomatic HIV patients

B:-For the screening of blood donors

C:-For estimating the prevalence of HIV infection

D:-All of the above

Correct Answer:- Option-A

Question91:-Which among the following is the most appropriate red blood cell product for intrauterine transfusions ?

A:-O negative group, leuco-filtered, HBS negative, less than 5 days old, compatible with maternal plasma

B:-O negative group, irradiated, HBS negative, less than 5 days old, compatible with maternal plasma

C:-O negative group, leuco-filtered, irradiated, HBS negative, less than 5 days old, compatible with maternal plasma

D:-O negative group, leuco-filtered, washed, less than 5 days old, HBS negative, compatible with maternal plasma

Correct Answer:- Option-C

Question92:-Which among the following is not an indication for Rh immunoglobulin immunisation ?

A:-Rh D negative female of 28 weeks pregnancy with the presence of anti D in the plasma

B:-Rh D negative pregnant female with ectopic pregnancy of 8 weeks

C:-Rh D negative female of 16 weeks undergoing chorionic villus biopsy

D:-Rh D negative female soon after caesarean section at 36 weeks of pregnancy

Correct Answer:- Option-A

Question93:-Which among the following can result in immune mediated hemolytic disease of new born ?

A:-Rh incompatibility

B:-ABO incompatibility

C:-Minor blood group incompatibility

D:-All the above

Correct Answer:- Option-D

Question94:-Which among the following is not typically a laboratory investigation observation in auto immune hemolytic anemia ?

A:-Increased serum haptoglobin

B:-Increased lactate dehydrogenase

C:-Increased unconjugated bilirubin in the serum

D:-Positive direct antiglobulin test

Correct Answer:- Option-A

Question95:-Which of the following are useful for the management of auto immune hemolytic anemia ?

A:-Glucocorticosteroids

B:-Rituximab

C:-Splenectomy

D:-All the above

Correct Answer:- Option-D

Question96:-Biologic in-vivo compatibility testing even though rare is typically performed in

A:-Thalassemia

B:-Auto immune hemolytic anemia

C:-Hemolytic disease of newborn

D:-Sickle cell anemia

Correct Answer:- Option-B

Question97:-Which one among the following scenario can be considered as massive transfusion ?

A:-12 blood unit transfusions within 24 hours

B:-Transfusion of 3 blood units in 1 hour

C:-Replacement of 50% of blood volume in 6 hours

D:-A rate of loss of blood at 100 ml / hour

Correct Answer:- Option-A

Question98:-A patient undergoing cardiac surgery with cardio-pulmonary bypass is having heparin resistance mostly due to Anti Thrombin deficiency. Which among the following will be appropriate for the management of this condition ?

A:-Cryoprecipitate

B:-Pro-thrombin complex concentrate

C:-Fresh frozen plasma

D:-Factor VII a

Correct Answer:- Option-C

Question99:-A blood request form is received at your blood center today for arranging 2 units of packed RBCs. It is for a 45-year-old female patient planning to undergo open heart surgery the next day involving cardiopulmonary bypass machine (CPB). Which among the following will you consider as the most appropriate RBC unit for arranging and issuing in this case ?

A:-Irradiated RBC

B:-Leuco-depleted RBC

C:-Washed RBC

D:-Irradiated and washed RBC

Correct Answer:- Option-B

Question100:-A patient underwent an allogenic hematopoietic stem cell transplant 7 days back. Blood group of the patient is A positive. Blood group of the donor is B positive. Patient is requiring RBC transfusion. Which blood group RBC will be appropriate for this patient ?

A:-O positive

B:-A positive

C:-B positive

D:-AB positive

Correct Answer:- Option-A