

54/2019

Question Booklet
Alpha Code

A

Question Booklet
Serial Number

180961

Total Number of questions : 100

Time : 75 Minutes

Maximum Marks : 100

INSTRUCTIONS TO CANDIDATES

1. The question paper will be given in the form of a Question Booklet. There will be four versions of question booklets with question booklet alpha code viz. A, B, C & D.
2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the question booklet.
3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
4. If you get a question booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator IMMEDIATELY.
5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your question booklet is unnumbered, please get it replaced by new question booklet with same alpha code.
6. The question booklet will be sealed at the middle of the right margin. Candidate should not open the question booklet, until the indication is given to start answering.
7. Immediately after the commencement of the examination, the candidate should check that the question booklet supplied to him contains all the 100 questions in serial order. The question booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.
8. A blank sheet of paper is attached to the question booklet. This may be used for rough work.
9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**
10. Each question is provided with four choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball Point Pen in the OMR Answer Sheet.
11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**
12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.
13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.

001. All are true about collection bag except
- (A) Easy to transport (B) Need more storage space
(C) Component separation easy (D) No chance for breakage
002. Which among the following is the best source of safe blood?
- (A) Voluntary non-remunerated donors (B) Replacement donors
(C) Professional donor (D) Directed donor
003. The storage temperature of blood for platelet concentrate is
- (A) 4-10°C (B) 1-6°C
(C) 18-20°C (D) 20-24°C
004. Which among the following is an eligible donor?
- (A) Male 20yrs, weight 50kg, Hb - 14gm/dl, donated blood 3 months back
(B) Female 20yrs, weight 50kg, Hb - 14gm/dl, never donated before
(C) Male 26yrs, weight 52 kg, Hb - 16gm/dl, history of jaundice nine months back
(D) Female 26yrs, weight 40kg, Hb-13gm/dl, never donated before
005. Post transfusion survival of red cells in CPDA anticoagulated blood is
- (A) 20 days (B) 25 days
(C) 30 days (D) 35 days
006. Changes that occur in stored blood include all except
- (A) Decrease in platelet count (B) Decrease in granulocytes
(C) Decrease in RBC count (D) Decrease in PH
007. Leucodepleted blood product means
- (A) Removal of 50% of leucocytes with loss of less than 5% of red cells
(B) Removal of 70% of leucocytes with loss of less than 20% of red cells
(C) Removal of 60% of leucocytes with loss of less than 10% of red cells
(D) Removal of 80% of leucocytes with loss of less than 30% of red cells
008. Advantage of buffy coat platelets compared to PRP platelets include all except
- (A) Minimal cell contamination (B) Rich in leucocytes
(C) Better platelet survival (D) High yield of plasma

A

009. Indication for packed red cell transfusion

- (A) Leukemia
- (B) Aplastic anemia
- (C) Hemophilia
- (D) Shock

010. What is fresh frozen plasma?

- (A) Plasma separated from blood, frozen within 6 hours at -20°C
- (B) Plasma separated from blood, frozen within 2 hours at -10°C
- (C) Plasma separated from blood, frozen within 12 hours at -20°C
- (D) Plasma separated from blood, frozen within 6 hours at -10°C

011. Cryoprecipitate may be indicated for treatment of all except

- (A) Hemophilia
- (B) Thrombocytopenia
- (C) Von Willebrand disease
- (D) Fibrinogen deficiency

012. Indication for transfusion of irradiated blood components are all except

- (A) Patients with severe thrombocytopenia
- (B) Patients with leukemia
- (C) Patients with bone marrow transplant
- (D) Patients with extensive chemotherapy

013. Advantage of blood component therapy

- (A) Reduces transfusion related diseases
- (B) Reduces all transfusion reactions
- (C) Reduces volume overload
- (D) Reduces cost

014. Age of an ideal donor should be between

- (A) 18-45 yrs
- (B) 18-65 yrs
- (C) 20-45 yrs
- (D) 20-55 yrs

015. Precautions to be taken while collecting blood include all except

- (A) Venepuncture should be clean
- (B) Blood flow should be rapid and uninterrupted
- (C) Bag should never be agitated
- (D) Appropriate volume of blood should be collected

016. Volume of anticoagulant preservative solution in collection bag
- (A) 14 ml of CPDA for preserving 100 ml of blood
 - (B) 20 ml of CPDA for preserving 100 ml of blood
 - (C) 14 ml of CPDA for preserving 350 ml of blood
 - (D) 20 ml of CPDA for preserving 350 ml of blood
017. The advantage of adding additives to blood bag include
- (A) Prevents bacterial growth
 - (B) Increases the viscosity of blood
 - (C) Extends the storage of red blood cells
 - (D) Decreases the leukocyte survival
018. Storage of blood in frozen state is done by adding
- (A) Adenine
 - (B) Citrate
 - (C) Glycerol
 - (D) Dextrose
019. Refractoriness to Platelet transfusion is due to
- (A) Decreased Platelet production
 - (B) Production of allo-antibodies
 - (C) Defective platelet function
 - (D) Defective cross matching
020. One unit of platelet concentrate increases the platelet count by
- (A) 5000-10000/microliter in a 70Kg person
 - (B) 10000-15000/microliter in a 70Kg person
 - (C) 15000-20000/microliter in a 70Kg person
 - (D) 20000-25000/microliter in a 70Kg person
021. If blood group of a person is A then antibodies present in that person's plasma is
- (A) anti - B antibodies
 - (B) anti - A antibodies
 - (C) anti - O antibodies
 - (D) anti - OA antibodies
022. The genes for A and B antigens are present in
- (A) Chromosome 8
 - (B) Chromosome 9
 - (C) Chromosome 10
 - (D) Chromosome 11

A

023. Which of the following is Bombay phenotype?
- (A) H^+h^+
 - (B) H^+H^+
 - (C) A^-B^-
 - (D) Possess anti A, anti B, anti H and anti AB antibodies.
024. How much iron is present in 1 unit of whole blood?
- (A) 200 mg
 - (B) 250 mg
 - (C) 340 mg
 - (D) 100 mg
025. Cryoprecipitate contains
- (A) Factors VIII, IX, II
 - (B) Factors VII, VIII, IX and X
 - (C) Factors VIII, IX, XIII and v WF
 - (D) Factors VIII, IX, X and v WF
026. Which among the following is not transmitted by blood transfusion?
- (A) Hepatitis A
 - (B) Hepatitis B
 - (C) Hepatitis C
 - (D) Hepatitis D
027. Antibodies present on the surface of RBC is tested by
- (A) Direct Coombs test in serum
 - (B) Indirect Coombs test in RBC
 - (C) Direct Coombs test in RBC
 - (D) Indirect Coombs test in serum
028. The final anticoagulant to blood ratio in a whole blood autologous unit is
- (A) 1:5
 - (B) 1:7
 - (C) 1:9
 - (D) 1:4
029. Which is the most common blood group found in Indian population?
- (A) Blood group A+
 - (B) Blood group B+
 - (C) Blood group AB+
 - (D) Blood group O+
030. The anti D antibody belongs to which class of immunoglobulin?
- (A) IgA
 - (B) IgE
 - (C) IgG
 - (D) IgM

031. A person has A negative blood group. Which of the following blood groups are compatible for him?
- (A) Blood group A positive (B) Blood group B positive
(C) Blood group O positive (D) Blood group O negative
032. Which of the following is correct about platelet transfusion?
- (A) Platelets are stored at 20-24 degree Celsius
(B) Platelets can be stored for 30 days from the time of collection
(C) Transfusion of one unit of platelet in an adult can increase the platelet count by 1000
(D) HLA C matching is done before collecting platelets from donors
033. Which of the following is FALSE in persons with O positive blood group?
- (A) They do not have A or B antigens on their erythrocytes
(B) They do not have antibodies against both A and B antigens in their plasma
(C) They have H antigens on their erythrocytes
(D) They have RhD antigens on their erythrocytes
034. Individuals with D negative blood group have one of the following on their RBC membrane.
- (A) Antigen RhD (B) Antigen RhCE
(C) Antigen both RhD and RhCE (D) Neither RhD nor RhCE
035. Which blood group system is based on cold reacting antibodies?
- (A) Duffy blood group system (B) Kell blood group system
(C) MNS blood group system (D) Rh blood group system.
036. Which one of the following is NOT a naturally occurring antibody?
- (A) Anti A antibody (B) Anti B antibody
(C) Anti AB antibody (D) Anti D antibody
037. Plasmapheresis is done for one of the following clinical conditions.
- (A) Sepsis (B) Multiple myeloma
(C) Allergy to albumin (D) Severe hypocalcemia

A

038. Transfusion of O negative blood group can trigger severe transfusion reaction in

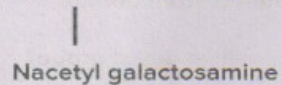
- (A) genotype AO (B) genotype AB
(C) genotype H+ H+ (D) genotype h+ h+

039. The gene for Rh antigen is present on

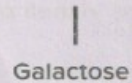
- (A) Chromosome 1 (B) Chromosome 5
(C) Chromosome 9 (D) Chromosome 11

040. Biochemical composition of blood group A substance is

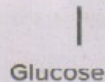
- (A) Fucose – Galactose – Nacetyl galactosamine – Protein
(B) Fucose – Galactose – Nacetyl galactosamine – Protein



- (C) Fucose – Galactose – Nacetyl galactosamine – Protein



- (D) Fucose – Galactose – Nacetyl galactosamine – Protein



041. Indirect antiglobulin test is used in blood bank for

- (A) Detecting anti D antibodies in serum
(B) Detecting irregular antibodies in serum
(C) Detecting autoantibodies in serum
(D) All of the above

042. Which of the following is NOT a method to screen blood donors for HIV in blood bank?

- (A) ELISA (B) Chemiluminescence
(C) Rapid detection cards (D) Western Blot

043. Which blood component contains a volume of less than 75 ml usually?

- (A) Red Blood Cells (B) Platelet Concentrate
(C) Platelet Rich Plasma (D) Fresh Frozen Plasma

044. Which type of antibody is most commonly involved in Warm Auto Immune Hemolytic Anemia?
- (A) IgG (B) IgM
(C) IgA (D) None of the above
045. Polyspecific Coombs reagent used in blood bank contains
- (A) IgM and C3b (B) IgG and C3d
(C) IgA and C3b (D) IgG and C1q
046. Which of the following reagent is not used for weak D (Du) testing?
- (A) IgM anti D (B) IgM + IgG anti D blend
(C) IgG anti D (D) Antiglobulin Reagent
047. Peripheral Smear is used to screen for presence of which organism in blood donors?
- (A) Plasmodium (B) Treponema
(C) Giardia (D) None of the above
048. Cryoprecipitate is used for which of the following disease?
- (A) Hemophilia A (B) Hemophilia B
(C) Sickle cell Anemia (D) Factor V deficiency
049. What is the diameter of a red cell?
- (A) 2-3 microns (B) 6-8 microns
(C) 10-12 microns (D) 0.5-1 microns
050. Column Agglutination Technology can be used for
- (A) Forward grouping (B) Reverse grouping
(C) Crossmatching (D) All of the above
051. Apheresis procedure to collect a Single Donor Platelet takes approximately
- (A) Ten minutes (B) Fifteen minutes
(C) Five minutes (D) One hour
052. What is the gauge of needle used in blood bag for whole blood collection?
- (A) 17 G (B) 23 G
(C) 16 G (D) 22 G

A

053. Anticoagulant used in blood bags
- (A) ACD (Acid Citrate Dextrose)
 - (B) Heparin
 - (C) CPD (Citrate Phosphate Dextrose)
 - (D) None of the above
054. Direct Coombs Test is performed on
- (A) Red cells
 - (B) Serum
 - (C) Whole blood
 - (D) None of the above
055. Which of the following is not true about IgM antibodies?
- (A) Reacts at room temperature
 - (B) Fixes complement
 - (C) Reacts without Coombs reagent
 - (D) Crosses placenta
056. Which of the following is NOT tested as a work up of post transfusion Reaction Investigation?
- (A) Blood culture
 - (B) Direct Coombs Test
 - (C) Urine Hb
 - (D) IgM estimation
057. Major contents of buffy coat are
- (A) Red Blood Cells and Platelets
 - (B) Platelets and leukocytes
 - (C) Red Blood Cells and Platelets
 - (D) Plasma and red blood cells
058. What is the specific gravity of Copper Sulphate stock solution routinely prepared in blood banks?
- (A) 1.8
 - (B) 1.3
 - (C) 1.4
 - (D) 1.1
059. Which of the following is a room temperature reactive antibody?
- (A) Anti Le^a
 - (B) Anti Jk^a
 - (C) Anti c
 - (D) None of the above
060. Levey-Jennings Chart is used in blood bank for
- (A) Quality control
 - (B) Copper Sulphate preparation
 - (C) Hemoglobin comparison
 - (D) Charting theatre cases

061. Instrument used to measure rpm of centrifuge is
- (A) Tachometer (B) Ammeter
(C) Revmeter (D) Rotatogram
062. Which of the following is a reagent used to disrupt disulphide bonds of IgM?
- (A) Dithiothreitol (B) EDTA
(C) Diacetyl esterase (D) Mercury
063. Which of the following is a technique used to reduce Febrile Non Hemolytic Transfusion Reactions?
- (A) Leucoreduction (B) Irradiation
(C) Sterile Connection (D) None of the above
064. A platelet concentrate with visible red cell contamination should be issued within
- (A) One day (B) Two days
(C) Five days (D) Should not be issued at all
065. Removal of antibodies from the surface of red cells is called
- (A) Elution (B) Expulsion
(C) Eradication (D) Ejection
066. What is the action of albumin in blood group serology?
- (A) Increases dielectric constant of medium
(B) Increases zeta potential
(C) Increases electrical repulsion
(D) None of the above
067. What is the percentage of albumin used in blood group serology?
- (A) 22% (B) 10%
(C) 9% (D) 26%
068. Which of the following is a characteristic of Donath-Landsteiner Antibody?
- (A) Seen in Paroxysmal Nocturnal Hemoglobinuria
(B) Antibody involved is IgM type
(C) Biphasic Antibody
(D) None of the above

A

069. Which of the following incompatibility can produce haemolytic disease of newborn?
- (A) ABO (B) Rh
(C) Both of the above (D) None of the above
070. Blood bank records are kept for a minimum period of
- (A) 4 yrs (B) 8 yrs
(C) 5 yrs (D) 2 yrs
071. Which of the following is an ideal blood donor?
- (A) Replacement blood donor (B) Voluntary blood donor
(C) Direct blood relative donor (D) Professional donor
072. Which is the standard colour code for labelling blood group A?
- (A) Blue (B) Yellow
(C) Pink (D) White
073. Blood Samples of donors in pilot tubes and recipient samples should be preserved for ----- days after issue of blood after crossmatch
- (A) 5 (B) 7
(C) 14 (D) 3
074. Universal Blood Donor Group is
- (A) A (B) B
(C) AB (D) O
075. Which of the following is an acceptable minimum titre for quality control of Anti A Antisera with A1 cells?
- (A) 32 (B) 64
(C) 256 (D) 1024
076. What is the unit of Avidity result while performing quality control of antisera?
- (A) Seconds (B) Millimeters
(C) No of cells/ml (D) No of cells/microliter
077. Saline replacement technique is used in suspected cases of
- (A) Panagglutination (B) Rouleaux formation
(C) Autoagglutination (D) None of the above

078. When mother is AB positive and baby's group is A positive, what is the ideal choice of packed cells for a baby of 2 months age?

- (A) AB positive (B) A positive
(C) O positive (D) O negative

079. Blood issued for exchange transfusion in neonates should be

- (A) More than 5 days old
(B) Of the same blood group as mother
(C) Of the same blood group as baby
(D) Less than 5 days old

080. Principle of Saliva testing for soluble blood group substances

- (A) Neutralisation (B) Sensitisation
(C) Agglutination (D) None of the above

081. The best diagnostic marker for recent Hepatitis B virus infection is

- (A) HBsAg (B) Anti HBc IgM
(C) Anti HBs (D) HBeAg

082. HIV genome is

- (A) ssRNA (B) dsRNA
(C) ssDNA (D) dsDNA

083. Standard confirmatory test for syphilis is

- (A) VDRL test (B) RPR test
(C) TPHA test (D) Kahn test

084. Risk of transmission of HIV is maximum through

- (A) Sexual contact (B) Blood transfusion
(C) Perinatal mode (D) Needle stick injury

085. 'Gold standard' test for diagnosis of Hepatitis C virus infection

- (A) Antigen detection (B) Antibody detection
(C) Cell culture (D) HCV RNA detection

A

086. Peripheral blood smear in falciparum malaria shows

- (A) Enlarged RBCs
- (B) Ring forms and gametocytes
- (C) Schuffner's dots
- (D) Schizonts and gametocytes

087. Virus most often causing infection in organ transplant recipients is

- (A) Human immunodeficiency virus
- (B) Hepatitis C virus
- (C) Cytomegalovirus
- (D) Hepatitis B virus

088. Window period in HIV indicates

- (A) Time interval between infection and onset of symptoms
- (B) Time interval between infection and detection of antibodies against HIV
- (C) Time interval between infection and onset of treatment
- (D) Time interval between infection and death

089. Earliest serological marker elevated in Hepatitis B virus infection is

- (A) HBcAg
- (B) Anti HBe
- (C) Anti HBc IgM
- (D) HBsAg

090. Carrier state is common in

- (A) Hepatitis A virus
- (B) Hepatitis B virus
- (C) Hepatitis C virus
- (D) Human Immunodeficiency virus

091. Hard chancre is characteristic of

- (A) Primary syphilis
- (B) Secondary syphilis
- (C) Tertiary syphilis
- (D) None of the above

092. Which of the following serological test is commonly employed for the diagnosis of syphilis?

- (A) Venereal disease research laboratory test
- (B) Kahn test
- (C) Wassermann reaction
- (D) Reiter protein complement fixation test

093. Which of the following test is used for the laboratory diagnosis of cytomegalovirus infection?
- (A) Demonstration of cytomegalic cells (B) Isolation of the virus
(C) Antigen detection (D) All of the above
094. The antigens present in the envelope of hepatitis B virus is
- (A) HBsAg (B) HBcAg
(C) HBeAg (D) None of the above
095. Which of the following hepatitis B genes are used for the preparation of recombinant hepatitis B vaccine?
- (A) HBsAg gene (B) HBeAg gene
(C) HBcAg gene (D) All of the above
096. After exposure to blood potentially infected with HIV, anti retroviral therapy and post exposure prophylaxis ideally be started within
- (A) Two hours (B) Four hours
(C) Six hours (D) Eight hours
097. Which HIV testing strategy is used for ensuring blood transfusion safety?
- (A) Strategy I (B) Strategy II
(C) Strategy III (D) None of the above
098. Who discovered malarial parasite?
- (A) Charles Louis Alphonse Laveran (B) Ronald Ross
(C) Francesco Redi (D) Youyou Tu
099. Which of the following may cause biological false-positive reactions in serologic test of syphilis?
- (A) Autoimmune disease (B) Leprosy
(C) Malaria (D) All of the above
100. The most common cause of transfusion transmitted hepatitis is
- (A) HAV (B) HBV
(C) HCV (D) HDV

A

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