



SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES & TECHNOLOGY

THIRUVANANTHAPURAM—695 011, INDIA.

(An Institute of National Importance under Govt. of India)

Phone—(91)0471—2443152 Fax—(91)0471—2446433, 2550728

Email-sct@sctimst.ac.in Web site—www.sctimst.ac.in

ROLL NUMBER

WRITTEN TEST FOR THE POST OF TECH. ASST. (TRANSFUSION MEDICINE) - A

DATE: 07/06/2023

TIME: 10 To 11.30

DURATION: 90 MINUTES

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATES

1. Write your Roll Number on the top of the Question Booklet and in the answer sheet.
2. Each question carries 1 mark.
3. There will not be any Negative Marking.
4. Darken only the bubble corresponding to the most appropriate answer.
5. Over-writing is not permitted.
6. Candidate should sign in the question paper and answer sheet.
7. No clarifications will be given.
8. Candidate should hand over the answer sheet to the invigilator before leaving the examination hall.

Signature of the Candidate

Rupa Sreedhar
07/06/2023

SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY, TRIVANDRUM

PROGRAMME: TECHNICAL ASSISTANT (TRANSFUSION MEDICINE) 2023

Duration: 90 Minutes

Total Marks: 100

(Select the most appropriate answer; Each question carries one mark)

1. The only immunoglobulin which crosses the placenta is
 - A. IgM
 - B. IgA
 - C. IgG
 - D. IgE

2. Intrauterine blood transfusion is indicated in which of the following
 - A. Intra-uterine growth retardation
 - B. Hydrops fetalis
 - C. Ectopic pregnancy
 - D. Twins

3. HCV testing of donated blood unit is done by all, except
 - A. Western blot assay
 - B. Chemiluminescence
 - C. ELISA
 - D. NAT

4. All coagulation factors are stable EXCEPT:
 - A. Factors V & VIII
 - B. Factors IX and X
 - C. Factors IV and V
 - D. Factors II

5. In a person with blood group AB
 - A. anti A & anti B present
 - B. anti A & anti B absent

Rupa Sreedhar
07/06/2023

- C. only anti B present
 - D. only anti A present
6. If a donor exhibits an untoward reaction during blood donation
- A. The donation should be terminated immediately
 - B. The donor should be monitored till the donation is completed
 - C. The donor should be asked to relax
 - D. The donor should be asked not to donate blood in future
7. Megakaryocytes take part in
- A. Production of leucocytes
 - B. Production of platelets
 - C. Production of mesophils
 - D. Production of mesangium
8. Antibodies are produced by
- A. Macrophages
 - B. T lymphocytes
 - C. B lymphocytes
 - D. Dendritic cells
9. Normal adult hemoglobin is
- A. Hemoglobin A
 - B. Hemoglobin C
 - C. Hemoglobin E
 - D. Hemoglobin F
10. Upper age limit for a repeat blood donor is:
- A, 60 years
 - B. 65 years
 - C. 55 years
 - D. 58 years

Rupa Sreedhar
07/06/2023

11. The optimum storage temperature of platelets is
- A. -20°C
 - B. -12°C
 - C. 4°C
 - D. 22°C
12. The constituent of blood that retain the fluid inside the blood vessel
- A. Globulin
 - B. Albumin
 - C. Hemoglobin
 - D. Glucose
13. The normal range of blood pH is
- A. 6.15 to 6.45
 - B. 6.45 to 6.85
 - C. 7.15 to 7.25
 - D. 7.35 to 7.45
14. Specific gravity of whole blood at room temperature is
- A. 1.050
 - B. 1.051
 - C. 1.052
 - D. 1.053
15. Increase in hematocrit is seen in
- A. Polycythemia
 - B. Leukemia
 - C. Anemia
 - D. Myeloma

Rupa Sreedhar
07/06/2023

16. Thalassemia is a disease due to defect in
- A. Red cell membrane
 - B. Bone marrow
 - C. Hemoglobin
 - D. Spleen
17. All are antigen antibody reactions EXCEPT
- A. Precipitation
 - B. Flocculation
 - C. Immobilization
 - D. Agglutination
18. In India, the minimum time period for males between two consecutive whole blood donations is
- A. 6 weeks
 - B. 8 weeks
 - C. 10 weeks
 - D. 12 weeks
19. Hemoglobin has a _____ structure
- A. Primary
 - B. Secondary
 - C. Tertiary
 - D. Quaternary
20. The term Rh used in blood groups is derived from which animal
- A. Mice
 - B. Sheep
 - C. Monkey
 - D. Goat

Rupa Sreedhar

07/06/2023

21. Reticulocyte refers to
- A. Immature RBCs
 - B. Immature WBCs
 - C. Immature platelets
 - D. Immature nerve cells
22. The confirmatory test for HIV infection
- A. Northern Blot
 - B. Eastern Blot
 - C. Western Blot
 - D. Southern Blot
23. Purpura is a condition due to defect in
- A. Red blood cells
 - B. White blood cells
 - C. Platelets
 - D. Gangliosides
24. Which antibody commonly causes hemolytic disease of newborn?
- A. Anti A
 - B. Anti B
 - C. Anti H
 - D. Anti D
25. Anticoagulant used to collect and store blood in blood bags is
- A. Citrate
 - B. Oxalate
 - C. EDTA
 - D. Heparin

Deepa Sreedhar
07/06/2023

26. Jk stands for the blood group
- A. Kell
 - B. Duffy
 - C. Kidd
 - D. Lutheran
27. Australia antigen is associated with the following infection
- A. HIV
 - B. HBV
 - C. HCV
 - D. CMV
28. If both the parents are AB blood group, then the child cannot be
- A. A group
 - B. B group
 - C. AB group
 - D. O group
29. Which disease is caused by a virus?
- A. Malaria
 - B. Syphilis
 - C. AIDS
 - D. Tuberculosis
30. Formation of blood cell is known as
- A. Hemolysis
 - B. Rouleaux
 - C. Haemopoiesis
 - D. Phagocytosis

Reena Sreedhar
07/06/2023

31. The liquid portion of blood after a clot has formed is called
- A. Buffy coat
 - B. Serum
 - C. Plasma
 - D. Lymph
32. National AIDS control programme was established in
- A. 1987
 - B. 1990
 - C. 1992
 - D. 1996
33. Increased rouleaux formation is seen in
- A. Multiple myeloma
 - B. Chronic myeloid leukemia
 - C. Acute lymphatic leukemia
 - D. Chronic lymphatic leukemia
34. Treatment of choice for Hemophilia A is
- A. Fresh Frozen plasma
 - B. Cryoprecipitate
 - C. Cryo poor plasma
 - D. Factor VIII concentrates
35. Which of the following is an acute transfusion reaction?
- A. Post-transfusion purpura
 - B. Febrile Non-Hemolytic Transfusion Reaction
 - C. Transfusion associated Graft-vs-Host Disease
 - D. Transfusion Transmitted Hepatitis

Deepa Sreedhar

07/06/2023

36. How long can blood be stored with CPDA?
- A. 12 days
 - B. 21 days
 - C. 35 days
 - D. 48 days
37. 450 ml of blood require how much of anticoagulant?
- A. 49 ml
 - B. 63 ml
 - C. 50 ml
 - D. 36 ml
38. World Blood Donor Day is celebrated on
- A. 1st November
 - B. 1st December
 - C. 14th June
 - D. 8th April
39. Intravascular hemolysis is seen in all situation, EXCEPT
- A. Snake bite
 - B. Mismatch blood transfusion
 - C. AB plasma transfusion
 - D. Acute burns
40. The purpose of immediate spin is to:
- A. Ensure survival of transfused RBCs
 - B. Determine ABO compatibility between donor and recipient
 - C. Detect cold reacting unexpected antibodies
 - D. Meet computer cross-match requirements

Rupa Sreedhar
07/06/2023

41. A hemovigilance programme is concerned with:
- A. Investigation of transfusion related reactions
 - B. Maintenance of blood centre inventory
 - C. Efficiency of blood bank staff
 - D. Efficiency of blood bank equipment
42. A donor is NOT permanently deferred if he suffers from which of the following disease:
- A. Hepatitis B
 - B. Hepatitis A
 - C. Cancer
 - D. Heart Disease
43. Haemoglobin should be at least gm/dl or higher for preoperative autologous blood donation.
- A. 11
 - B. 12.5
 - C. 10
 - D. 12
44. Correct sequence of adding sample and reagents in an ELISA test is:
- A. Sample → conjugate → substrate → stop solution
 - B. Conjugate → sample → substrate → stop solution
 - C. Sample → substrate → conjugate → stop solution
 - D. Substrate → sample → conjugate → stop solution
45. As per Drugs & Cosmetics Rules, Govt. of India, the following number of components should be subjected to quality control:
- A. 10% of the components prepared
 - B. 1% of the components prepared
 - C. 5% of the components prepared
 - D. 2% of the components prepared

Deepa Sreedhar
07/06/2023

46. Counseling of sero-reactive blood donors is done for the following reasons, EXCEPT
- A. Identify high risk factors in the blood donors
 - B. Referring them to appropriate section for confirmation and treatment
 - C. Asking them not to donate blood in future
 - D. To encourage family members to donate blood
47. Blood donor and recipient samples used in cross-matching must be stored for a minimum of how many days following transfusion?
- A. 2 days
 - B. 5 days
 - C. 7 days
 - D. 10 days
48. Platelets prepared by PRP method from a whole blood donation, require which of the following?
- A. A light spin, then a hard spin
 - B. Two light spins
 - C. A light spin and two heavy spins
 - D. A hard spin, then a light spin
49. Donor Hemovigilance Programme of India was launched in
- A. December 2012
 - B. December 2013
 - C. June 2015
 - D. June 2018
50. In the blood bag, blood is mixed with
- A. Anticoagulant solution
 - B. Preservative solution
 - C. Anticoagulant-preservative solution
 - D. Mannitol-dextrose solution

Deepa Gredha
07/06/2023

51. Genes for ABO blood groups are inherited as

- A. X linked recessive
- B. Autosomal recessive
- C. X linked dominant
- D. Autosomal dominant

52. Which of the following has a X linked dominant inheritance pattern

- A. Knops
- B. Dombrock
- C. LW
- D. Xg

53. Immunoglobulin present in lowest amount in serum

- A. IgA
- B. IgG
- C. IgM
- D. IgE

54. Polyethylene glycol enhances antigen-antibody reactions by:

- A. Decreasing zeta potential
- B. Concentrating antibody by removal of water
- C. Increasing antibody affinity for antigen
- D. Increasing antibody specificity for antigen

55. A, B, H soluble substances in secretions are

- A. Glycoproteins
- B. Glycolipids
- C. Sphingomyelins
- D. Glycosphingolipids

Deepa Bredha

07/06/2023

56. The immunodominant sugar in A2 group is

- A. D- galactose
- B. L -fucose
- C. N-acetyl-D-galactosamine
- D. N- acetyl-D- glucosamine

57. A B H soluble substance is detected in all EXCEPT

- A. Amniotic fluid
- B. Milk
- C. Ovarian cyst fluid
- D. Cerebrospinal fluid

58. Following is true about anti IH antibody

- A. Reacts more with A1 cells than A2 cells
- B. Reacts with Oh cells
- C. Reacts with Ocord cells
- D. Reacts with Oadult cells

59. 'Acquired B' shows which type of grouping discrepancy

- A. Type 1 discrepancy
- B. Type 2 discrepancy
- C. Type 3 discrepancy
- D. Type 4 discrepancy

60. What are the possible ABO phenotypes of the offspring from the mating of a group A to a group B individual?

- A. O, A, B
- B. A, B
- C. A, B, AB
- D. O, A, B, AB

Repa Sreedhar
07/06/2023

61. DCcEe terminology in Rh system belongs to which nomenclature

- A. Rosenfield
- B. Fisher Race
- C. Weiner
- D. ISBT

62. G antibody is

- A. combination of anti C and anti D
- B. combination of anti C and anti e
- C. combination of anti c and anti D
- D. combination of anti c and anti E

63. Which Lewis antibody can be produced by Le (a-b+) individual

- A. anti Le (b)
- B anti Le (a) and anti Le (b)
- C. anti Le (a)
- D. none

64. With 2 M urea solution red cell lysis is delayed with

- A. Jk (a-b+) RBCs
- B. Jk (a+b+) RBCs
- C. Jk (a+b-) RBCs
- D. Jk (a-b-) RBCs

65. Which among the pair are not antithetical

- A. I and i
- B. Js (a) and Js (b)
- C. Fy (a) and Fy (b)
- D. Jk (a) and Jk (b)

Rupa Sreedhar
07/06/2023

66. Which of the following blood group systems is known for showing dosage?

- A. I
- B. P
- C. Kidd
- D. Lutheran

67. ISBT 001 denotes

- A. Rh system
- B. MNS system
- C. ABO system
- D. Kidd system

68. Colour of label used for autologous blood units is

- A. Purple
- B. Lavender
- C. Green
- D. Black

69. Shelf life of irradiated red cell unit is

- A. 14 days from date of irradiation
- B. 14 days from date of collection
- C. 28 days from date of irradiation
- D. 28 days from date of collection

70. As per AABB standards, leucoreduced red cell unit should contain less thanWBC

- A. 3×10^{11}
- B. 5×10^6
- C. 4×10^3
- D. 5×10^{11}

Reya Sreedhar
07/06/2023

71. Government of India made test for Human Immunodeficiency Virus (HIV) mandatory by notifying in drugs and cosmetics act in

- A. 1991
- B. 1985
- C. 1989
- D. 1990

72. Individual whose spouse has received blood transfusion 3 months back should be deferred from blood donation for

- A. 3 months
- B. 12 months
- C. no deferral
- D. 6 months

73. As per NACO guidelines, as part of equipment maintenance and calibration, the alarm system of refrigerators and freezers should be checked once every

- A. Day
- B. Week
- C. Fortnight
- D. Month

74. Concentration of sodium hypochlorite used for cleaning work surfaces is

- A. 0.1%
- B. 2.5%
- C. 1%
- D. 4%

75. Granulocytes prepared for transfusion should be stored at

- A. 22-24 °C with gentle agitation
- B. 22-24 °C without agitation
- C. 2-4 °C with agitation
- D. 2-4 °C without agitation


Rupa Sreedhar

07/06/2023

76. Lower pH (6.5) enhances reactivity of

- A. anti Jk (a)
- B. anti M
- C. anti Le (a)
- D. none



77.  symbol on blood bags and reagents indicates

- A. quantity of reagent
- B. symbol of manufacturer
- C. temperature for storage
- D. expiry date

78. Standard blood administration set has filter size

- A. 20-40 microns
- B. 170-260 microns
- C. 300-500 microns
- D. 10-40 microns

79. Phenotyping of donor units can be exempted, if patient has

- A. anti Jk (a)
- B. anti M
- C. anti S
- D. anti D

80. Transfusion of autologous units can cause all EXCEPT

- A. Febrile non-haemolytic transfusion reaction
- B. Acute haemolytic transfusion reaction
- C. Delayed serologic transfusion reaction
- D. Transfusion transmitted bacterial infection

Deepa Sreedhar
07/06/2023

81. As per DGHS Technical Manual 2022, Shelf life of Red cell unit washed (saline washed) in a closed system is

- A. 28 days
- B. 24 hours
- C. 14 days
- D. original expiry

82. Minimum weight requirement for donor apheresis as per NBTC 2017 donor selection guidelines is

- A. 60 kg
- B. 55 kg
- C. 65 kg
- D. 50 kg

83. Glycine HCl/EDTA elution method denatures.... antigens

- A. Kidd
- B. Kell
- C. Lutheran
- D. MNS

84. Culture of Blood components as part of QC should be done for days as per norms of Indian Pharmacopoeia

- A. 48 hours
- B. 14 days
- C. 35 days
- D. 42 days

85. Lectin with Anti B property is

- A. Ulex europeaus
- B. Bandeiraea simplicifolia
- C. Vicia graminea
- D. Vicia hyrcanica

Reena Sreedhar
07/06/2023

86. ZZAP reagent is

- A. Dithiothreitol + ficin
- B. Chloroquine diphosphate +PBS
- C. Glycine HCl/EDTA +PBS
- D. Cysteine activated papain +PBS

87. All the following about Donath Landsteiner antibodies are true EXCEPT

- A. IgM antibody
- B. IgG antibody
- C. P specificity
- D. Associated with paroxysmal cold haemoglobinuria

88. Gauge of needle used for phlebotomy for blood donation is

- A. 21 g
- B. 10 g
- C. 16 g
- D. 23g

89. Adverse donor reaction during or after whole blood donation can be due to all EXCEPT

- A. Hypotension
- B. Anxiety
- C. Needle manipulation
- D. Citrate

90. A collection time from donor more thanminutes is not suitable for preparation of FFP from 450 ml blood bag

- A. 12 minutes
- B. 10 minutes
- C. 15 minutes
- D. 30 minutes

Repa Sreedhar
07/06/2023

91. Professional Blood donation is banned in India since

- A. January 1, 1999
- B. January 1, 1997
- C. January 1, 1998
- D. January 1, 1996

92. Fluids compatible with blood are all except

- A. Normal saline
- B. Dextrose normal saline
- C. 5% albumin
- D. ABO compatible plasma

93. Adequate microbial destruction using autoclave requires

- A. 15 psi at 121°C for 60 min
- B. 15 psi at 100°C for 30 min
- C. 10 psi at 121°C for 60 min
- D. 10 psi at 121°C for 30 min

94. Total blood volume in adult male is calculated as

- A. 10-20ml/kgbody weight
- B. 70-75 ml/kg body weight
- C. 90-100ml/body weight
- D. 45-50 ml/kgbody weight

95. Avidity testing for blood grouping reagents is done using

- A. 2-5% RBC suspension
- B. whole blood
- C. 40% RBC suspension
- D. 0.8% RBC suspension

Repa Sreedhar

07/06/2023

96. Agglutination score of 5 corresponds to grade in tube method

- A. mf
- B. +3
- C. +2
- D. +1

97. Approximately what percentage of group A individuals could be further classified as subgroup A1?

- A. 20%
- B. 40%
- C. 60%
- D. 80%

98. Government of India adopted the National Blood Policy in the year

- A. 2002
- B. 2000
- C. 1999
- D. 2012

99. If a patient had a positive direct antiglobulin test (DAT) with Anti-IgG, what would happen if you performed a Weak D test on the patient cells?

- A. False-positive result
- B. False-negative result
- C. Indeterminate result
- D. Hemolysis

100. The end result of RPR is

- A. Agglutination
- B. Flocculation
- C. Precipitation
- D. Hemolysis

Rupa Bredhar
07/06/2023

ANSWER KEY TECHNICAL ASSISTANT TRANSFUSION MEDICINE EXAMINATION 2023

1. C
2. B
3. A
4. A
5. B
6. A
7. B
8. C
9. A
10. B
11. D
12. B
13. D
14. D
15. A
16. C
17. C
18. D
19. D
20. C
21. A
22. C
23. C
24. D
25. A
26. C
27. B
28. D
29. C
30. C
31. B
32. C
33. A
34. D
35. B
36. C
37. B
38. C

Rupa Sreedhar
07/06/2023

- 39. C
- 40. B
- 41. A
- 42. B
- 43. A
- 44. A
- 45. B
- 46. D
- 47. C
- 48. A
- 49. C
- 50. C
- 51. D
- 52. D
- 53. D
- 54. B
- 55. A
- 56. C
- 57. D
- 58. D
- 59. B
- 60. D
- 61. B
- 62. A
- 63. D
- 64. D
- 65. A
- 66. C
- 67. C
- 68. C
- 69. C
- 70. B
- 71. C
- 72. B
- 73. D
- 74. C
- 75. B
- 76. B
- 77. D
- 78. B
- 79. B
- 80. C
- 81. C
- 82. D

Rupa Sreedhar
07/06/2023

- 83. B
- 84. B
- 85. B
- 86. A
- 87. A
- 88. C
- 89. D
- 90. C
- 91. C
- 92. B
- 93. A
- 94. B
- 95. C
- 96. D
- 97. D
- 98. A
- 99. A
- 100. B

Reya Sreedhar
07/06/2023