ETERNAL CAREER CLASSES

SUBJECT : BIOLOGY (Body Fluid and Circulation)

DATE: 07.02.2023

- *1.* Largest number of white blood corpuscles are
 - (a) Eosinophils (b) Basophils
 - (c) Neutrophils (d) Monocytes
- 2. Haemoglobins of human foetus
 - (a) Has two protein subunits instead of four
 - (b) Has higher affinity of oxygen than that of the adult
 - (c) Has lower affinity of oxygen than that of the adult
 - (d) Its affinity for oxygen is the same as that of an adult
- 3. What is correct about ECG ?
 - (a) P-depolarisation of atria
 - (b) R-repolarisation of ventricles
 - (c) T-start of systole
 - (d) T-end of diastole
- 4. In order for the blood to flow right ventricle to left ventricle in mammalian heart, it must flow through
 - (a) Right ventricle, pulmonary arteries, lungs pulmonary veins, left atrium
 - (b) Right ventricle, pulmonary veins, lungs, pulmonary arteries, left atrium
 - (c) Right ventricle, right atrium, lungs, pulmonary veins, left atrium
 - (d) Right ventricle, systemic aorta, lungs, pulmonary veins, left atrium
- 5. Given below are four statements, a—b, regarding human blood circulatory system. Find the correct one.
 - (i) Arteries are thick-walled and have narrow lumen as compared to veins
 - (ii) Angina is acute chest pain when the blood circulation to brain is reduced
 - (iii) Persons with blood group AB can donate blood to any person with any blood group under ABO system
 - (iv) Calcium ions play a very important role in blood clotting
 - (a) (i) and (ii) (b) (i) and (iv)
 - (c) (ii) and (iii) (d) (iii) and (iv) (d)
- 6. If due to some injury, chordae tendinae of tricuspid valve of the heart are partially non-functional, what will be the immediate effect ?(a) The 'Pacemaker' will stop working

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- (b) Blood will tend to flow back into left atrium
- (c) Flow of blood into pulmonary artery will be reduced
- (d) Flow of blood into aorta will be slowed down
- Blood corpuscles containing both A and B antigens are mixed with another blood serum. The blood corpuscles agglutinated. Blood serum belong to blood group
 - (a) A
 - (c) AB (d) O
- 8. The first heart sound is
 - (a) Lub during closure of semilunar valves

(b) B

- (b) Dub during closure of semilunar valves
- (c) Lub during closure of atrioventricular valves
- (d) Dub during closure of atrioventricular valves
- QRS complex of a standard ECG represents
 - (a) Excitation of depolarisation of atria
 - (b) Depolarisation of ventricles
 - (c) Repolarisation of ventricles
 - (d) None of the above
- *10.* To obtain a standard ECG, a patient is connected to the machine by three electrodes
 - (a) One to each wrist and to the left ankle
 - (b) One to each ankle and to the left wrist
 - (c) One to each wrist and to the left wrist region
 - (d) One to each ankle and to the left chest region
- 11. What is correct regarding blood pressure ?
 - (a) 105/50 mm Hg makes one very active
 - (b) 100/55 mm Hg is considered an ideal blood pressure
 - (c) 190/110 mm Hg may harm vital organ like brain and kidneys.
 - (d) 130/90 mm Hg is considered as high and requires treatment.
- 12. Arteries are best defined as vessels which
 - (a) Break up into capillaries which reunite to form a vein
 - (b) Carry blood away from heart to different organs
 - (c) Supply oxygenated blood to different organs

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- (d) Carry blood from one visceral organ to another visceral organ
- *13.* In ECG, P-wave refers to
 - (a) End of atrial contraction
 - (b) Beginning of atrial contraction/ depolarisation
 - (c) Beginning of ventricular contraction
 - (d) None of the above
- *14.* Compared to those of humans, erythrocytes of Frog are
 - (a) With nucleus but without haemoglobin
 - (b) Nucleated and with haemoglobin
 - (c) Smaller and fewer
 - (d) Without nucleus but with haemoglobin
- *15.* Choose the correct option.
 - (i) Human heart is ectodermal in origin.
 - (ii) Mitral valve guards the opening between right atrium and left ventricle
 - (iii) SAN is located on the left upper corner of right atrium
 - (iv) Stroke volume × Heart rate = Cardiac output
 - (a) (i) alone is correct
 - (b) (i) and (ii) alone are correct
 - (c) (ii) and (iii) alone are correct
 - (d) (iv) alone is correct
 - (e) (ii) and (iv) alone are correct
- *16.* Choose the correct statement
 - (a) T-wave in ECG represents excitation of ventricles
 - (b) Sum of P and T waves can determine heart beat rate
 - (c) End of P-wave marks end of systole
 - (d) In a standard ECG, a person is connected to machine with three electrical leads
- 17. Which is not correct about circulatory system of aves ?
 - (a) Heart is four chambered
 - (b) Well developed renal portal system
 - (c) Sinus venosus and truncus arteriosus are lacking
 - (d) RBCs are nucleated
- *18.* How do parasympathetic neural signals affect the working of the heart ?
 - (a) Heart rate decreases but cardiac output increases
 - (b) Reduce both heart rate and cardiac output
 - (c) Heart rate is increased without affecting the cardiac output
 - (d) Both heart rate and cardiac output increase
- *19.* Person with blood group AB is considered as universal recipient because he has

- (a) Both A and B antigens in the plasma but no antibodies
- (b) Both A and B antigens one RBC but no antibodies in the plasma
- (c) Both A and B antibodies in the plasma
- (d) No antigen on RBC and no antibody in the plasma
- **20.** Which of the following statements is true with respect to sounds produced during cardiac cycle ?
 - (a) The first heart sound (lub) is associated with the closure of semilunar valves
 - (b) The first heart sound (lub) is associated with closure of bicuspid valves
 - (c) Second heart sound (dub) is associated with closure of bicuspid valves
 - (d) Second heart sound (dub) is associated with closure of tricuspid valves
- 21. Persons with blood group 'O' are universal donors because they have
 - (a) Antigen 'A' on RBCs
 - (b) Antigen 'B' on RBCs
 - (c) No antigen on RBCs
 - (d) Antigen 'A' and 'B' on RBCs
- 22. Doctors use stethoscope to hear the sounds produce during each cardiac cycle. The second sound is heard when
 - (a) Ventricular walls vibrate due to gushing in of blood from atria
 - (b) Semilunar valves close down after the blood flows into vessels from ventricles
 - (c) AV node receives signal from SA node
 - (d) AV valves open up
- 23. Reduction in pH of blood will
 - (a) Reduce the rate of heart beat
 - (b) Reduce the blood supply to the brain
 - (c) Decrease the affinity of haemoglobin with oxygen
 - (d) Release bicarbonate ions by the liver
- 24. Blood pressure in the pulmonary artery is
 - (a) Same as that in the aorta
 - (b) More than that in the carotid
 - (c) More than that in the pulmonary vein
 - (d) Less than that in the venae cavae
- 25. Frog's heart when taken out of the body continues to beat for sometime.Select the best option from the following statements.
 - (i) Frog is poikilotherm
 - (ii) Frog does not have any coronary circulation
 - (iii) Heart is "myogenic" in nature
 - (iv) Heart is autoexcitable

Options :

- (a) Only (iv) (b) (i) and (ii)
- (c) (iii) and (iv) (d) Only (iii)