

DPP

DAILY PRACTICE PROBLEMS

Class : XIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 1

Topic :-Body Fluids And Circlulation

- 1 (a)
In frog, **pulmonary artery** is a paired artery that carry more deoxygenated blood from the right ventricle of the heart to the lungs.
- 2 (d)
If repeated checks of blood pressure of an individual is 140/90 (140 over 90) or higher, it show hypertension. High blood pressure leads to heart diseases and also affects the vital organs like brain and kidney
- 3 (c)
All except III.
Auto-Rhythmicity of Heart
Automatic rhythmicity of the heart is the ability to contract spontaneously. Mammalian heart is myogenic. It means heart beat results from a wave of electrical potential called cardiac impulse arising from sinoatrial node SA node and spreading over cardiac chambers.
SA-node lies in the wall of right atrium near opening of superior vena cava and contract about 72 times per minute. Form SA node cardiac impulse travels to atrioventricular node (lies between right atrium and ventricle)
Then pass to AV bundle (also called bundle to His) and its branches reaches to the Purkinje fibres in ventricles.
Bundle of His provides the only route for the transmission of wave of excitation from atria to ventricles. Purkinje fibres conducts the impulses five times more rapidly than surrounding cells. It forms a pathway for conduction of impulse that ensures that the heart muscle contracts in the most efficient manner
- 4 (b)
The correct pathway of the transmission of impulses in the heart beat is
SA-node → AV-node → Bundle of His → Purkinje fibres
- 5 (c)
Water is the medium of transportation, in sponges (water canal system) *Hydra* (gastro vascular system) and starfish (ambulacral system)
- 6 (d)
A buffer is a chemical or combination of chemicals that can both take up and release hydrogen ions. Carbonic acid (H₂CO₃) and sodium bicarbonate (NaHCO₃) help buffering human blood because H₂CO₃ is a weak acid that does not totally dissociate, when excess hydrogen ions are present in blood, the reaction goes to the left and carbonic acid forms to maintain the pH.
- $$\text{H}_2\text{CO}_3 \rightleftharpoons \text{H}^+ + \text{HCO}_3^-$$
- Carbonic acid Hydrogen ion Bicarbonate ion
- 7 (a)

In open circulatory system instead of capillaries, blood vessels join directly with the open sinuses. Blood is actually a combination of blood and interstitial fluid called haemolymph which is forced from the blood vessels into the large sinuses, where it actually, bathes the internal organs

8

(b)

Primary blood cells are formed in bone marrow. The process of formation of blood is called haemopoiesis.

9

(a)

I, III, V.

Leucocytes or white blood corpuscles which are without haemoglobin and therefore, they are colourless and considerably larger than RBC. The normal WBC count is 6000-8000 per cubic mm of blood. Lower count is called leukopenia and high WBC count is termed as leukaemia or leucocytosis. The life span of WBC in man is about 10-30 days

10

(a)

70-75 min⁻¹.

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11

(a)

Haematuria is the presence of blood cells (RBCs) in urine. The presence of WBCs or pus in the urine is called **pyuria**.

12

(a)

An oval depression called **fossa ovalis** is present in the inter auricular septum within the right auricle. This depression is present as an oval foramen in embryo called foramen ovale. Through this foramen, the blood from right auricle is communicated towards left auricle in embryo.

13

(b)

Lymph acts as middle man of the body.

14

(d)

Coronary heart disease occurs due to insufficient blood supply to the heart muscle.

15

(a)

Pulse is rhythmic contraction and relaxation in the aorta and its main arteries. Thus, pulse is a wave of increase, which passes through arteries as the left ventricle pumps its blood into aorta. Pulse is a regular jerk of an artery. Pulse is usually taken on a radial artery in wrist.

16

(a)

Heart is mesodermal in origin

- 17 **(a)**
An elaborate network of vessels called the lymphatic system collects the interstitial fluid and drains it back to the major vein. This network is called lymphatic system and the process is called lymphatic circulation
- 18 **(b)**
Volume of both atrium is less than the volume of both ventricles.
Interventricular septum separates the right and left ventricles.
Atrioventricular septum separates the atrium and ventricles
- 19 **(a)**
A-atria, B-atrial systole, C-30.
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- 20 **(a)**
After the digestion of carbohydrates, proteins and fats, the amino acid, glucose, fatty acids, glycerol and vitamins, etc, are absorbed into the blood plasma from the alimentary tract.

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	a	d	c	b	c	d	a	b	a	a
Q.	11	12	13	14	15	16	17	18	19	20
A.	a	a	b	d	a	a	a	b	a	a



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COACHING**