

Chemical Coordination and Integration

Assertion Reason Questions

Given below are two statements labelled as Assertion (A) and Reason (R). Select the most appropriate answer from the options given below:

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true and R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) A is false but R is true.

1. Assertion (A): Melatonin regulates circadian rhythm.

Reason (R): Its secreted by pineal gland and regulates sleep-wake cycle.

Ans. (a) Both A and R are true and R is the correct explanation of A.

Explanation: Dorsal side of the forebrain secretes melatonin. It regulates circadian rhythm ie, 24-hour diurnal rhythm of the human body, maintains sleep-wake cycle and body temperature.

2. Assertion (A): Thymus plays an important role in developing immune system.

Reason (R): Helps differentiation T-lymphocytes. Of

Ans. (a) Both A and R are true and R is the correct explanation of A.

Explanation: Thymus gland secretes thymosins, a peptide hormone which helps T-lymphocytes to differentiate and provide cell-mediated immunity, promoting production of antibodies, thus providing humoral immunity.

3. When you think of the adrenal glands (also known as suprarenal glands), stress might come to mind. And rightly so-the two adrenal glands are arguably best known for secreting the hormone adrenaline, which rapidly prepares your body to spring into action in a stressful situation. But the adrenal glands contribute to your health even at

times when your body isn't under extreme stress.



Assertion (A): Adrenaline and noradrenaline are called hormones. emergency

Reason (R): These hormones increases alertness, pupillary dilation and piloerection.

Ans. (a) Both A and R are true and R is the correct explanation of A.

Explanation: Adrenal medulla secretes two types of hormones commonly called catecholamines i.e., adrenaline and noradrenaline secreted in response to any stress, during emergencies, thus also known as emergency hormones or hormones of fight, fright and flight. These hormones function by increasing alertness, pupillary dilation, piloerection and sweating.

4. Assertion (A): Pancreas is known composite gland. as

Reason (R): It has both endocrine and exocrine functions.

Ans. (a) Both A and R are true and R is the correct explanation of A.

Explanation: Pancreas gland's exocrine function is to help in digestion and endocrine function is to secrete insulin and glucagon.