

Strand I: Conservation of resources

I.1: Soil conservation measures

Section A

1. B.
2. B.
3. D.
4. B.

Section B

1.
 - (a) Soil bunds.
 - (b) Soil bunds are raised barriers of soil constructed across the slope. They trap and hold back runoff water and soil particles, slow down the speed of flowing water and allow more water to soak into the ground, thereby preventing soil erosion.
2.
 - (a) Strip cropping.
 - (b) Grassed waterways.
 - (c) Stone lines.
 - (d) Trash lines.
 - (e) Soil bunds.
3.
 - (a) Trash lines.
 - (b) Trash lines are made up of crop remains and cut weeds arranged in lines across the slope. They slow down the speed of runoff water and trap soil particles being carried away, thereby reducing soil erosion.
4.
 - (a) Select a suitable sloping site.
 - (b) Mark out the contour lines.
 - (c) Construct the soil conservation structure (bunds, stone lines or trash lines).
 - (d) Plant grass, crops or cover vegetation along the structure.
 - (e) Carry out regular maintenance.
5.
 - (a) The bunds were not maintained — soil deposits blocked them and the bunds were damaged by erosion and not repaired, allowing water to break through.
 - (b) Regularly clear soil deposits that accumulate against the bunds and repair or reinforce damaged sections to maintain their effectiveness in controlling runoff and retaining water.
6.
 - (a) Prevents or reduces soil erosion.
 - (b) Maintains and improves soil fertility.
 - (c) Increases crop yields.

- (d) Conserves water in the soil.
- 7. Strip cropping involves growing different crops in alternating strips across the slope. The strips break up the flow of runoff water and reduce its speed, while the varied crop cover and root systems hold the soil together, reducing soil erosion and water runoff.

1.2: Water harvesting and storage

Section A

- 1. B.
- 2. B.
- 3. B.

Section B

- 1. Report the leak immediately to a teacher or the school administration so it can be repaired or turn off the main valve if trained to do so, to prevent water wastage.
- 2.
 - (a) Cleaning the school gutters and water tanks regularly to remove leaves and dirt.
 - (b) Ensuring the water tanks or storage containers are always tightly covered after use.
 - (c) Using water economically (avoiding wastage) when washing hands or cleaning classrooms and turning off taps completely after use.
- 3.
 - (a) Provide a reserve of water for domestic use and livestock.
 - (b) Reduce the impact of drought by ensuring water availability.
- 4.
 - (a) They can install larger or additional water storage tanks to increase their overall capacity.
 - (b) They can expand their roof catchment area by adding more gutters to harvest a greater volume of water whenever it rains.
- 5. By keeping the storage container tightly covered with a lid to keep out dust, insects and breeding mosquitoes.
- 6.
 - (a) The water can easily become contaminated with dust, dirt, bird droppings and disease-causing germs.
 - (b) Open drums serve as breeding grounds for mosquitoes, which increases the risk of malaria in the village.
- 7.
 - (a) Construct silt traps or filtration barriers along the runoff channels to trap soil, stones and debris before the water enters the storage structure.
 - (b) Fencing off the runoff catchment area and storage site to keep livestock and wild animals away so they cannot contaminate the water source.
- 8.

- (a) Container A. It has a lid that protects the water from contamination by dust and insects.
- (b) Keep the container tightly covered with a lid; wash the containers before refilling; draw water from clean sources to avoid contamination.