



Daily MCQ: 21.04.2026

- 1) With reference to the PM-VIKAS (Pradhan Mantri Virasat Ka Samvardhan) scheme, consider the following statements:
1. It is a centrally sponsored scheme implemented by the Ministry of Minority Affairs.
 2. The scheme aims to integrate traditional artisans and craftspersons into formal value chains through skill development and market linkages.
 3. It focuses exclusively on providing direct cash transfers to minority communities.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

- 2) Which of the following funds come under the ambit of Alternative Investment Funds?
1. Venture Capital Funds
 2. Hedge Funds
 3. Mutual Funds
 4. Securitization Trusts
 5. Private Equity Funds

.Select the correct answer using the code below:

- (a) 1, 2 and 5 only
- (b) 1, 2, 3 and 5 only
- (c) 2, 3 and 4 only
- (d) 1, 4 and 5 only

- 3) Consider the following:
1. DNA Mutation .
 2. Disinfection.
 3. Building Audits
 4. Pulse Oximetry
 5. Cooking.

How many of the above applications are used in Infrared waves?

- (a) Only Two
- (b) Only Three
- (c) Only Four
- (d) All of the above

- 4) Consider the following:

Assertion (A): Dark-colored microplastics deposited on snow or glaciers absorb more sunlight and accelerate glacial melting.



Reason (R): Dark surfaces have lower Albedo and therefore absorb more incoming solar radiation compared to light-colored surfaces like snow..

Select the correct code given below:

- (a) Both A and R are true, and R is the correct explanation of A
 - (b) Both A and R are true, but R is not the correct explanation of A
 - (c) A is true, but R is false
 - (d) A is false, but R is true
- 5) Which of the following statements about mangroves is *incorrect*?
- (a) Mangroves are highly productive ecosystems that support diverse marine and terrestrial species.
 - (b) Mangrove soils are often rich in organic matter and can store significant amounts of blue carbon.
 - (c) Mangroves are generally absent from wave-sheltered tropical coastlines because they require strong ocean currents for seed dispersal.
 - (d) Mangroves possess physiological adaptations such as salt exclusion or salt excretion mechanisms.

Explanation

1) **Answer: (A)**

The **PM-*VIKAS*** scheme is indeed a **Centrally Sponsored Scheme (CSS)**. It was designed by merging five existing schemes of the **Ministry of Minority Affairs**: *Seekho aur Kamao*, *USTTAD*, *Hamari Dharohar*, *Nai Roshni*, and *Nai Manzil*. By combining these, the government aims to create a more streamlined and impactful approach to heritage preservation and socio-economic empowerment. **Hence, statement 1 is correct.**

A primary objective of the scheme is to uplift traditional artisans and craftspersons. It focuses on four key pillars:

- **Skilling and Training:** Modernizing traditional skills.
- **Leadership and Entrepreneurship:** Empowering individuals to run their own enterprises.
- **Education:** Providing functional literacy and formal certification.
- **Market Linkages:** Connecting local artisans to national and international markets, ensuring they become part of the formal economy. **Hence, statement 2 is correct.**

PM-*VIKAS* is an **integrated development scheme**, not a direct benefit transfer (DBT) cash handout program. While it may provide stipends during training, its core focus is on **capacity building, infrastructure support, and heritage preservation** rather than just "direct cash transfers." **Hence, statement 3 is incorrect.**

Therefore, option A is the correct answer.

2) **Answer: (A)**

Alternative Investment Fund(AIF)



- **Venture Capital Funds (Category I):** These are considered AIFs because they pool capital to invest in early-stage startups and high-growth potential small businesses.
- **Hedge Funds (Category III):** These are AIFs that use complex trading strategies and leverage to generate absolute returns for sophisticated investors.
- **Private Equity Funds (Category II):** These are the most common type of AIFs, focusing on mature, unlisted companies.

Not AIFs:

- **Mutual Funds:** These are specifically excluded from the AIF definition because they are retail-oriented investment vehicles regulated under the *SEBI (Mutual Funds) Regulations, 1996*.
- **Securitization** is the financial process of pooling various types of contractual debt—such as auto loans, home loans, or credit card receivables—and selling their related cash flows to third-party investors as securities. A **Securitization Trust** is the critical "middleman" or vehicle used to make this happen. In legal and financial terms, it is often referred to as a **Special Purpose Vehicle (SPV)**.
- **Therefore, Option A is the correct answer**

3) Answer: (B)

Infrared waves application

- **Building Audits:** Architects and engineers use Thermal Infrared Cameras to conduct audits. These cameras detect heat signatures to identify areas of energy loss, moisture intrusion, or electrical overheating that are invisible to the naked eye.
- **Pulse Oximetry:** A pulse oximeter uses Near-Infrared (NIR) light along with Red light. It shines these through a fingertip to measure how much light is absorbed by oxygenated vs. deoxygenated hemoglobin, allowing it to calculate blood oxygen levels.
- **Cooking:** Many household appliances, such as toasters, ovens, and infrared grills, use IR radiation to transfer heat directly to the surface of the food. The "red glow" you see in a toaster is the heating element emitting infrared waves.

UltraViolet waves application

- **DNA Mutation:** This is primarily caused by Ultraviolet (UV) rays, X-rays, or Gamma rays (ionizing radiation). These have enough energy to break chemical bonds and damage DNA. Infrared waves are "non-ionizing" and generally do not have enough energy to cause DNA mutations.
- **Disinfection:** This is a classic application of Ultraviolet-C (UVC) light. UV radiation destroys the nucleic acids in bacteria and viruses, preventing them from replicating. Infrared is used for heating/drying, but it is not a standard tool for germicidal disinfection.
- **Therefore, Option B is the correct answer**

4) Answer: (A)

- **Albedo** is the measure of the diffuse reflection of solar radiation out of the total solar radiation received by a body. It is measured on a scale from 0 to 1:
High Albedo: Light-colored surfaces (like fresh snow or ice) reflect most of the sunlight back into space. Fresh snow has an albedo of approximately **0.8 to 0.9** (80% - 90%).



Low Albedo: Dark-colored surfaces (like asphalt, dark soil, or dark plastic) absorb most of the radiation and convert it into heat.

Since dark surfaces have a lower albedo, the statement in **Reason (R)** is scientifically accurate.

● **The Impact on Glaciers (Assertion A)**

When microplastics especially those that are dark colored settle on the surface of glaciers or snow:

- They change the surface color from bright white to a darker shade.
- This reduces the overall albedo of the glacier.
- Instead of reflecting sunlight, the surface begins to **absorb** thermal energy, which increases the surface temperature and accelerates the rate of melting.

Because the physical property of dark surfaces (low albedo) directly causes the increased heat absorption that leads to melting, **Reason (R)** is the foundational scientific principle that explains why **Assertion (A)** occurs.

- **Therefore, option A is the correct answer.**

5) **Answer: (C)**

Mangroves are often called "**biological nurseries.**" Their complex root systems provide shelter and food for fish, crustaceans, and mollusks, while their canopies support birds and insects, linking marine and terrestrial food webs. **Hence, option A is correct.**

Mangroves are **champions of Blue Carbon sequestration.** Because they grow in waterlogged, anaerobic (oxygen-poor) soils, organic matter decomposes very slowly. This allows them to store up to four times more carbon per hectare than typical terrestrial tropical forests. **Hence, option B is correct.**

Mangroves **actually thrive in wave-sheltered areas, such as estuaries, lagoons, and bays.** High-energy waves and strong currents can uproot seedlings and prevent them from establishing roots in the mud. While they **do use water for seed dispersal (hydrochory)**, they require calm conditions to settle and grow. **Hence, option C is incorrect.**

To survive in saline environments, mangroves have evolved specialized traits. Some species are **salt excluders** (filtering out salt at the root level), while others are **salt excreters** (absorbing salt and then expelling it through specialized glands on their leaves). **Hence, option D is correct. Therefore, option C is the correct answer.**