

UGC NET 2022 ENVIRONMENTAL SCIENCES

Topic:- 89_PARTA_S2

1) The grain size (USDA) of silt in soil ranges between

1. 2 mm to 0.5 mm
2. 0.5 mm to 0.1 mm
3. 0.1 mm to 0.05 mm
4. 0.05 mm to 0.002 mm

[Question ID = 647][Question Description = 101_89_EMS_SEP22_S2_Q01]

1. 1 [Option ID = 2585]
2. 2 [Option ID = 2586]
3. 3 [Option ID = 2587]
4. 4 [Option ID = 2588]

2) What will be BOD_5 for a wastewater sample when 21 ml of sample is diluted to 300 ml in BOD bottle to determine dissolved oxygen.

[Given: Initial $DO_1 = 10$ mg/l ; Five days later $DO_5 = 5$ mg/l]

1. ~ 5 mg/l
2. ~ 25 mg/l
3. ~ 71.4 mg/l
4. ~ 75 mg/l

[Question ID = 648][Question Description = 102_89_EMS_SEP22_S2_Q02]

1. 1 [Option ID = 2589]
2. 2 [Option ID = 2590]
3. 3 [Option ID = 2591]
4. 4 [Option ID = 2592]

3) What will be the concentration of 40 ppb SO_2 in $\mu\text{g}/\text{m}^3$ unit at 25°C ?

1. ~0.04 $\mu\text{g}/\text{m}^3$
2. ~1047 $\mu\text{g}/\text{m}^3$
3. ~104.7 $\mu\text{g}/\text{m}^3$
4. ~10.47 $\mu\text{g}/\text{m}^3$

[Question ID = 649][Question Description = 103_89_EMS_SEP22_S2_Q03]

1. 1 [Option ID = 2593]
2. 2 [Option ID = 2594]
3. 3 [Option ID = 2595]
4. 4 [Option ID = 2596]

4) National Ambient air quality standards typically include following components

1. Maximum and Minimum pollutant levels; adjustment for co-pollutants
2. Abatement strategies, non-attainment penalties
3. Ambient temperature, size distribution and relative humidity
4. Indicator (Chemical/Chemical class), Averaging time, Pollutant form and level

[Question ID = 650][Question Description = 104_89_EMS_SEP22_S2_Q04]

1. 1 [Option ID = 2597]
2. 2 [Option ID = 2598]
3. 3 [Option ID = 2599]
4. 4 [Option ID = 2600]

5) Primary air pollutants differ from secondary air pollutants as they

1. are present in levels that can be weighed on filter paper.
2. are directly emitted from identified sources.
3. have undergone chemical transformation in air after release from identified sources.
4. are designated as hazardous air pollutants.

[Question ID = 651][Question Description = 105_89_EMS_SEP22_S2_Q05]

1. 1 [Option ID = 2601]
2. 2 [Option ID = 2602]
3. 3 [Option ID = 2603]
4. 4 [Option ID = 2604]

6) Continuity equation expresses the law of conservation of

1. Momentum
2. Mass
3. Entropy
4. Energy

[Question ID = 652][Question Description = 106_89_EMS_SEP22_S2_Q06]

1. 1 [Option ID = 2605]
2. 2 [Option ID = 2606]
3. 3 [Option ID = 2607]
4. 4 [Option ID = 2608]

7) Which of the following statements correctly represent the environmental wisdom worldwide?

1. Our success depends on how well we manage the earth's life support systems mostly for our benefits.
2. Our success depends on how well we manage the earth's life support systems for our benefit and for the rest of nature.
3. Our success depends on learning how nature sustains itself and integrating such lessons from nature into the ways we think.
4. Our success depends on using environmentally beneficial forms of economic growth and discourage environmentally harmful forms.

[Question ID = 653][Question Description = 107_89_EMS_SEP22_S2_Q07]

1. 1 [Option ID = 2609]
2. 2 [Option ID = 2610]
3. 3 [Option ID = 2611]
4. 4 [Option ID = 2612]

8) Exposure concentration is: _____

1. the amount of the chemical that is received by the target.
2. the amount of chemical present in the medium with which an Organism has contact.
3. the amount of the chemical that is excreted by the target.
4. the amount of the chemical that is metabolized by the target.

[Question ID = 654][Question Description = 108_89_EMS_SEP22_S2_Q08]

1. 1 [Option ID = 2613]
2. 2 [Option ID = 2614]
3. 3 [Option ID = 2615]
4. 4 [Option ID = 2616]

9) In ecotoxicology studies, ED-50 is: _____

1. the dose that affects 50% of the population or observed subjects.
2. the dose that affects 95% of the population or observed subjects.
3. the dose that affects 25% of the population or observed subjects.
4. the dose that do not affect 50% of the total population.

[Question ID = 655][Question Description = 109_89_EMS_SEP22_S2_Q09]

1. 1 [Option ID = 2617]
2. 2 [Option ID = 2618]
3. 3 [Option ID = 2619]
4. 4 [Option ID = 2620]

10) A hypothesis, that predicts a linear relationship in which rate of ecosystem processes is maximum with greatest number of species, is known as:

1. Rivet-popper hypothesis.
2. Redundancy hypothesis.
3. Diversity-stability hypothesis.
4. Idiosyncratic hypothesis.

[Question ID = 656][Question Description = 110_89_EMS_SEP22_S2_Q10]

1. 1 [Option ID = 2621]
2. 2 [Option ID = 2622]
3. 3 [Option ID = 2623]
4. 4 [Option ID = 2624]

11) Which of the following is not a phase of secondary succession?

1. Initiation
2. Continuation
3. Termination
4. Invasion

[Question ID = 657][Question Description = 111_89_EMS_SEP22_S2_Q11]

1. 1 [Option ID = 2625]
2. 2 [Option ID = 2626]
3. 3 [Option ID = 2627]
4. 4 [Option ID = 2628]

12) The Concept of r- and k- selection was originally given by

1. MacArthur and Wilson (1967)
2. Grime (1979)
3. Molles (2008)
4. Mayr (1942)

[Question ID = 658][Question Description = 112_89_EMS_SEP22_S2_Q12]

1. 1 [Option ID = 2629]
2. 2 [Option ID = 2630]
3. 3 [Option ID = 2631]
4. 4 [Option ID = 2632]

13) The prefix "steno" and "eury" have been used for

1. comparing the relative degree of tolerance of an organism to a given environmental factor.
2. comparing the body size of organisms occurring in a given habitat.
3. comparing the metabolic activity of organisms in a given habitat.
4. comparing the distribution limits of organisms occurring across a biome.

[Question ID = 659][Question Description = 113_89_EMS_SEP22_S2_Q13]

1. 1 [Option ID = 2633]
2. 2 [Option ID = 2634]
3. 3 [Option ID = 2635]
4. 4 [Option ID = 2636]

14) The strong and rapidly moving circumpolar upper air westerly circulation in a narrow belt of a few hundred kilometers width in the upper limit of the troposphere, is called _____

1. Rossby waves.
2. Jet streams.
3. Walker streams.
4. Hadley Circulation.

[Question ID = 660][Question Description = 114_89_EMS_SEP22_S2_Q14]

1. 1 [Option ID = 2637]
2. 2 [Option ID = 2638]
3. 3 [Option ID = 2639]
4. 4 [Option ID = 2640]

15) Coriolis effect is

1. the influence of Earth's rotations, which tends to turn air towards the right in the Northern Hemisphere.
2. the influence of Earth's rotation, which tends to turn air upwards in the Northern Hemisphere.
3. the influence of Earth's rotation which tends to turn air towards the left in the Northern Hemisphere.
4. the influence of Earth's rotation, which tends to turn air downwards in the Northern Hemisphere.

[Question ID = 661][Question Description = 115_89_EMS_SEP22_S2_Q15]

1. 1 [Option ID = 2641]
2. 2 [Option ID = 2642]
3. 3 [Option ID = 2643]

4. 4 [Option ID = 2644]

16) The boundary between fresh and salty groundwater along shorelines is determined by

1. recharge and Discharge in freshwater aquifer.
2. composition of salty and fresh groundwater.
3. rainfall.
4. nature of aquifer.

[Question ID = 662][Question Description = 116_89_EMS_SEP22_S2_Q16]

1. 1 [Option ID = 2645]
2. 2 [Option ID = 2646]
3. 3 [Option ID = 2647]
4. 4 [Option ID = 2648]

17) The sum of diffused and direct solar radiation, is called

1. continental solar radiation.
2. global solar radiation.
3. total solar radiation.
4. universal solar radiation.

[Question ID = 663][Question Description = 117_89_EMS_SEP22_S2_Q17]

1. 1 [Option ID = 2649]
2. 2 [Option ID = 2650]
3. 3 [Option ID = 2651]
4. 4 [Option ID = 2652]

18) Which one of the following elements is used in making Photovoltaic Solar cell ?

1. Tungsten
2. Silver
3. Lead
4. Silicon

[Question ID = 664][Question Description = 118_89_EMS_SEP22_S2_Q18]

1. 1 [Option ID = 2653]
2. 2 [Option ID = 2654]
3. 3 [Option ID = 2655]
4. 4 [Option ID = 2656]

19) The destructive distillation of coal yielding products such as gasoline, diesel oil and other products, is known as_____.

1. gasification
2. precipitation
3. condensation
4. liquefaction

[Question ID = 665][Question Description = 119_89_EMS_SEP22_S2_Q19]

1. 1 [Option ID = 2657]
2. 2 [Option ID = 2658]
3. 3 [Option ID = 2659]
4. 4 [Option ID = 2660]

20)

Which process facilitates conversion of raw fat into biodiesel in the presence of alcohol?

1. Glycerol conversion
2. Saccharification
3. Torrefaction
4. Transesterification

[Question ID = 666][Question Description = 120_89_EMS_SEP22_S2_Q20]

1. 1 [Option ID = 2661]
2. 2 [Option ID = 2662]
3. 3 [Option ID = 2663]
4. 4 [Option ID = 2664]

21)

Which plant/tree has been recommended in India for extraction of biodiesel?

1. Wheat (*Triticum aestivum*)
2. Sugarcane (*Saccharum officinarum*)
3. Mango (*Mangifera indica*)
4. Karanja (*Pongamia pinnata*)

[Question ID = 667][Question Description = 121_89_EMS_SEP22_S2_Q21]

1. 1 [Option ID = 2665]
2. 2 [Option ID = 2666]
3. 3 [Option ID = 2667]
4. 4 [Option ID = 2668]

22)

Anammox bacteria is required for which of the following steps in wastewater treatment?

1. Nitrate to Nitrite conversion
2. Nitrite to Nitrate conversion
3. Molecular Nitrogen to Ammonia conversion
4. Ammonium ion to Molecular Nitrogen conversion

[Question ID = 668][Question Description = 122_89_EMS_SEP22_S2_Q22]

1. 1 [Option ID = 2669]
2. 2 [Option ID = 2670]
3. 3 [Option ID = 2671]
4. 4 [Option ID = 2672]

23)

Which of the following is an INCORRECT statement?

1. Humus represents organic matter, dark in colour.
2. Acid soils are devoid of basic cations.
3. Humus contains cellulose and hemi cellulose.
4. Humic and fulvic acids in humus form hydrophobic colloid whereas clay colloids are hydrophilic in nature.

[Question ID = 669][Question Description = 123_89_EMS_SEP22_S2_Q23]

1. 1 [Option ID = 2673]
2. 2 [Option ID = 2674]
3. 3 [Option ID = 2675]
4. 4 [Option ID = 2676]

24)

The use of bacteria and other microorganisms to breakdown hazardous waste into relatively harmless components, is termed as

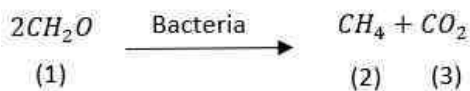
1. phyto remediation.
2. source reduction process.
3. integrated waste management.
4. bioremediation.

[Question ID = 670][Question Description = 124_89_EMS_SEP22_S2_Q24]

1. 1 [Option ID = 2677]
2. 2 [Option ID = 2678]
3. 3 [Option ID = 2679]
4. 4 [Option ID = 2680]

25)

Which of the following is INCORRECT about the given decomposition reaction ?



1. All carbon in (1) is oxidized.
2. Some Carbon in (1) is oxidized and some is reduced.
3. This is an example of fermentation.
4. It produces gas that some time catches fire.

[Question ID = 671][Question Description = 125_89_EMS_SEP22_S2_Q25]

1. 1 [Option ID = 2681]
2. 2 [Option ID = 2682]
3. 3 [Option ID = 2683]
4. 4 [Option ID = 2684]

26)

Heavy metals are retained in soil/sludge by

1. complexation by humic substances in organic particles
2. absorption on to surface of mineral particles
3. precipitation reaction
4. solubilization in acidic conditions

[Question ID = 672][Question Description = 126_89_EMS_SEP22_S2_Q26]

1. 1 [Option ID = 2685]
2. 2 [Option ID = 2686]
3. 3 [Option ID = 2687]
4. 4 [Option ID = 2688]

27)

There is often a formal review and licensing procedures of Environmental Impact Assessment. Who would NOT carry out such a procedure ?

1. The proponent of the development project.
2. The local government authority ultimately responsible for licensing development project.
3. Another government agency which can be given responsibility for licensing development project.
4. An independent body having knowledge of the development project.

[Question ID = 673][Question Description = 127_89_EMS_SEP22_S2_Q27]

1. 1 [Option ID = 2689]
2. 2 [Option ID = 2690]

3. 3 [Option ID = 2691]
4. 4 [Option ID = 2692]

28)

As per United Nations Framework Convention on Climate Change (UNFCCC), which of the following has role in the assessment and review of the effective implementation of the convention?

1. Subsidiary Body for Scientific and Technical Advice (SBSTA)
2. Subsidiary Body for Implementation(SBI)
3. The Conference of Parties (COP)
4. The Climate Change Secretariat

[Question ID = 674][Question Description = 128_89_EMS_SEP22_S2_Q28]

1. 1 [Option ID = 2693]
2. 2 [Option ID = 2694]
3. 3 [Option ID = 2695]
4. 4 [Option ID = 2696]

29)

"A financial mechanism through which developing countries would be rewarded for emission reduction achieved by taking action to reduce deforestation and forest degradation" refers to

1. Clean Development Mechanism.
2. Global Forest Carbon Mechanism.
3. Reduced Emission from Deforestation and Forest Degradation.
4. Incentive - Compatible Selection Mechanism.

[Question ID = 675][Question Description = 129_89_EMS_SEP22_S2_Q29]

1. 1 [Option ID = 2697]
2. 2 [Option ID = 2698]
3. 3 [Option ID = 2699]
4. 4 [Option ID = 2700]

30)

Which of the following principle was introduced in 1972 by the Organization for Economic Cooperation and Development (OECD) guiding principles concerning Institutional Economic Aspects of Environmental Pollution?

1. Frontier Diplomacy Principle
2. Polluter Pays Principle
3. Human Rights and Environment Principle
4. Principle of Environment Protection

[Question ID = 676][Question Description = 130_89_EMS_SEP22_S2_Q30]

1. 1 [Option ID = 2701]
2. 2 [Option ID = 2702]
3. 3 [Option ID = 2703]
4. 4 [Option ID = 2704]

31)

Which section of Environmental (Protection) Act,1986 deals with offences by companies?

1. Article 13
2. Article 14
3. Article 16
4. Article 18

[Question ID = 677][Question Description = 131_89_EMS_SEP22_S2_Q31]

1. 1 [Option ID = 2705]

2. 2 [Option ID = 2706]
3. 3 [Option ID = 2707]
4. 4 [Option ID = 2708]

32)

Which Article of the Constitution of India states that it shall be the duty of every citizen of India to protect and improve the natural environment and to have compassion for living creatures ?

1. Article 48A
2. Article 51A
3. Article 21A
4. Article 13A

[Question ID = 678][Question Description = 132_89_EMS_SEP22_S2_Q32]

1. 1 [Option ID = 2709]
2. 2 [Option ID = 2710]
3. 3 [Option ID = 2711]
4. 4 [Option ID = 2712]

33)

Which among the following is the first major Environmental Protection act to be promulgated in India ?

1. Biological Diversity Act
2. Environmental Protection Act
3. Forest Conservation Act
4. Wildlife Protection Act

[Question ID = 679][Question Description = 133_89_EMS_SEP22_S2_Q33]

1. 1 [Option ID = 2713]
2. 2 [Option ID = 2714]
3. 3 [Option ID = 2715]
4. 4 [Option ID = 2716]

34)

Which of the following sections of the Indian Penal code refers to making atmosphere noxious to health as a punishable offence?

1. Section 275
2. Section 276
3. Section 277
4. Section 288

[Question ID = 680][Question Description = 134_89_EMS_SEP22_S2_Q34]

1. 1 [Option ID = 2717]
2. 2 [Option ID = 2718]
3. 3 [Option ID = 2719]
4. 4 [Option ID = 2720]

35)

Which of the following is NOT included during Environmental Impact Assessment (EIA) ?

1. A detailed assessment of the planned project and selected alternative compared to the baseline conditions.
2. Qualitative description measuring higher, medium and low impacts.
3. Quantitative description measuring physical values of water withdrawal, sewage produced and pollutants released.
4. All the data collection, analysis and developed plans summarized together in a well-structured and concise documents.

[Question ID = 681][Question Description = 135_89_EMS_SEP22_S2_Q35]

1. 1 [Option ID = 2721]
2. 2 [Option ID = 2722]
3. 3 [Option ID = 2723]
4. 4 [Option ID = 2724]

36)

To find out the degree of linear relationship between age and height of trees, the parameter to be estimated is:

1. Standard Error
2. Correlation coefficient
3. Median
4. Standard deviation

[Question ID = 682][Question Description = 136_89_EMS_SEP22_S2_Q36]

1. 1 [Option ID = 2725]
2. 2 [Option ID = 2726]
3. 3 [Option ID = 2727]
4. 4 [Option ID = 2728]

37)

The Coefficient of Variation can be measured by

1. (Mean/Standard deviation) x 100
2. (Median/Standard deviation) x 100
3. (Standard deviation/Mean) x 100
4. (Standard deviation/ Median) x100

[Question ID = 683][Question Description = 137_89_EMS_SEP22_S2_Q37]

1. 1 [Option ID = 2729]
2. 2 [Option ID = 2730]
3. 3 [Option ID = 2731]
4. 4 [Option ID = 2732]

38)

Which of the following is a nominal variable?

1. Level of rainfall (Mild, Moderate, Severe)
2. Blood group type (A, B, AB, O)
3. Height of a tree
4. Socio-economic status (Low, Middle, High)

[Question ID = 684][Question Description = 138_89_EMS_SEP22_S2_Q38]

1. 1 [Option ID = 2733]
2. 2 [Option ID = 2734]
3. 3 [Option ID = 2735]
4. 4 [Option ID = 2736]

39)

'Hysteresis' is the best defined as:

1. A change occurring at a steady rate where rate is defined by the directions of change.
2. A change occurring at a steady rate followed by sudden increased rate catastrophically.
3. A change that occurs at steady rate and maintains so.
4. A change that is sudden non-linear between two stable states without the prospect of reverse.

[Question ID = 685][Question Description = 139_89_EMS_SEP22_S2_Q39]

1. 1 [Option ID = 2737]
2. 2 [Option ID = 2738]
3. 3 [Option ID = 2739]
4. 4 [Option ID = 2740]

40)

Which one of the following is correctly matched pair?

1. Biodiversity Conservation - Basel Convention
2. Global Warming - Montreal Protocol
3. Climate Change - Kyoto Protocol
4. Groundwater Pollution - Ramsar Convention

[Question ID = 686][Question Description = 140_89_EMS_SEP22_S2_Q40]

1. 1 [Option ID = 2741]
2. 2 [Option ID = 2742]
3. 3 [Option ID = 2743]
4. 4 [Option ID = 2744]

41)

Who among the following received Noble Prize for peace and started the Green Belt Movement?

1. Rajendra K. Pachauri
2. Wagai M. Matthai
3. Jim Bohlen
4. Gro Harlem Brundtland

[Question ID = 687][Question Description = 141_89_EMS_SEP22_S2_Q41]

1. 1 [Option ID = 2745]
2. 2 [Option ID = 2746]
3. 3 [Option ID = 2747]
4. 4 [Option ID = 2748]

42)

Genetic Engineering is possible because

1. Restriction endonucleases purified from bacteria can be used *in vitro*.
2. The phenomenon of transduction in bacteria is well understood.
3. We can cut DNA at specific sites by endonucleases like DNase.
4. We can see DNA by electron microscope.

[Question ID = 688][Question Description = 142_89_EMS_SEP22_S2_Q42]

1. 1 [Option ID = 2749]
2. 2 [Option ID = 2750]
3. 3 [Option ID = 2751]
4. 4 [Option ID = 2752]

43)

LEED, one of the Sustainable Habitat green rating systems, refers to:

1. Leadership in Energy and Efficiency Design
2. Leadership in Energy and Efficiency Document
3. Leadership in Energy and Environment Design
4. Leadership in Energy and Environment Document

[Question ID = 689][Question Description = 143_89_EMS_SEP22_S2_Q43]

1. 1 [Option ID = 2753]
2. 2 [Option ID = 2754]
3. 3 [Option ID = 2755]
4. 4 [Option ID = 2756]

44)

'Prerak Dauur Samman', the annual award given under which of the following scheme of Government of India?

1. Smart Cities
2. Namami Gange
3. Swachh Bharat Abhiyan
4. Green India Mission

[Question ID = 690][Question Description = 144_89_EMS_SEP22_S2_Q44]

1. 1 [Option ID = 2757]
2. 2 [Option ID = 2758]
3. 3 [Option ID = 2759]
4. 4 [Option ID = 2760]

45)

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Active ingredient in most pesticides are organic chlorine compounds.

Reason R : Organo chlorines have low solubility in water, high solubility in hydrocarbon like environment and have relatively high toxicity to insects and low toxicity to humans.

In light of the above statements, choose the **correct** answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

[Question ID = 691][Question Description = 145_89_EMS_SEP22_S2_Q45]

1. 1 [Option ID = 2761]
2. 2 [Option ID = 2762]
3. 3 [Option ID = 2763]
4. 4 [Option ID = 2764]

46)

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Temperature of large waterbody varies more slowly than that of the land of comparable size.

Reason R : Specific heat of water is high i.e., about five times of soil.

In light of the above statements, choose the **correct** answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

[Question ID = 692][Question Description = 146_89_EMS_SEP22_S2_Q46]

1. 1 [Option ID = 2765]
2. 2 [Option ID = 2766]
3. 3 [Option ID = 2767]
4. 4 [Option ID = 2768]

47)

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Small increase in wind velocity and height of turbine produces a large increase in energy yield.

Reason R : Energy yield from wind is proportional to third power of wind speed and wind speed increases with height above ground.

In light of the above statements, choose the **correct** answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

[Question ID = 693][Question Description = 147_89_EMS_SEP22_S2_Q47]

1. 1 [Option ID = 2769]
2. 2 [Option ID = 2770]
3. 3 [Option ID = 2771]
4. 4 [Option ID = 2772]

48)

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : α and β particles, emitted during a radioactive decay of a nucleus are simply nucleus of Helium and electron and are called as ionizing radiations.

Reason R : α and β particles produced in the radioactive decay are ejected with an incredible amount of energy of motion. When this energy is absorbed by matter encountered by the particle, it often ionises atoms and molecules.

In light of the above statements, choose the **correct** answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

[Question ID = 694][Question Description = 148_89_EMS_SEP22_S2_Q48]

1. 1 [Option ID = 2773]
2. 2 [Option ID = 2774]
3. 3 [Option ID = 2775]
4. 4 [Option ID = 2776]

49)

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Cool pavements are generally composed of light coloured material with high permeability.

Reason R : Lighter coloured pavements reflect more light and absorb less heat. High permeability allow water to percolate and evaporate, thereby cooling pavement and surrounding air.

In light of the above statements, choose the **correct** answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

[Question ID = 695][Question Description = 149_89_EMS_SEP22_S2_Q49]

1. 1 [Option ID = 2777]
2. 2 [Option ID = 2778]
3. 3 [Option ID = 2779]
4. 4 [Option ID = 2780]

50)

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Dematerialization, the progressive decrease in size and weight of a product as a result of technological improvement is an example of source reduction.

Reason R : New product is more durable than the one being replaced.

In light of the above statements, choose the **correct** answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

[Question ID = 696][Question Description = 150_89_EMS_SEP22_S2_Q50]

1. 1 [Option ID = 2781]
2. 2 [Option ID = 2782]
3. 3 [Option ID = 2783]
4. 4 [Option ID = 2784]

51)

Arrange the following elements of image interpretations in order of increasing complexity

- A. Location
- B. Tone
- C. Situation
- D. Pattern
- E. Texture

Choose the **correct** answer from the options given below

1. A, B, D, C, E
2. A, B, E, D, C
3. C, E, D, B, A
4. E, B, A, D, C

[Question ID = 697][Question Description = 151_89_EMS_SEP22_S2_Q51]

1. 1 [Option ID = 2785]
2. 2 [Option ID = 2786]
3. 3 [Option ID = 2787]
4. 4 [Option ID = 2788]

52)

Basalts are composed of the following minerals:

- A. Olivine
- B. Pyroxene
- C. Quartz
- D. Orthoclase
- E. Plagioclase

Choose the **correct** answer from the options given below

- 1. A, B and C only
- 2. A, B and D only
- 3. A, B and E only
- 4. B, C and D only

[Question ID = 698][Question Description = 152_89_EMS_SEP22_S2_Q52]

- 1. 1 [Option ID = 2789]
- 2. 2 [Option ID = 2790]
- 3. 3 [Option ID = 2791]
- 4. 4 [Option ID = 2792]

53)

Arrange the following minerals with increasing order of stability for weathering.

- A. Illite
- B. Olivine
- C. Calcite
- D. Ca rich feldspar
- E. Na rich feldspar

Choose the **correct** answer from the options given below

- 1. B, C, D, E, A
- 2. B, C, E, D, A
- 3. C, B, E, D, A
- 4. C, B, D, E, A

[Question ID = 699][Question Description = 153_89_EMS_SEP22_S2_Q53]

- 1. 1 [Option ID = 2793]
- 2. 2 [Option ID = 2794]
- 3. 3 [Option ID = 2795]
- 4. 4 [Option ID = 2796]

54)

Choose the correct sequence of filtration processes used for sequential removal of particles from coarser (1 μm) to finer grain sizes.

A. Microfiltration

B. Ultrafiltration

C. Nanofiltration

D. Reverse Osmosis

Choose the **correct** answer from the options given below

1. D, C, B, A

2. A, B, C, D

3. D, C, A, B

4. A, B, D, C

[Question ID = 700][Question Description = 154_89_EMS_SEP22_S2_Q54]

1. 1 [Option ID = 2797]

2. 2 [Option ID = 2798]

3. 3 [Option ID = 2799]

4. 4 [Option ID = 2800]

55)

In waste pollution prevention hierarchy, arrange following from least preferred to most preferred.

A. Waste Concentration

B. Waste Separation

C. Waste treatment

D. Recycling or Reuse

E. Landfill

Choose the **correct** answer from the options given below

1. E, A, C, B, D

2. E, C, A, B, D

3. E, C, B, A, D

4. E, C, A, D, B

[Question ID = 701][Question Description = 155_89_EMS_SEP22_S2_Q55]

1. 1 [Option ID = 2801]

2. 2 [Option ID = 2802]

3. 3 [Option ID = 2803]

4. 4 [Option ID = 2804]

56)

Given below are two statements

Statement I: Key to nitrogen cycle is nitrogen fixing bacteria, which has ability to fix N_2 or combine gases N_2 with hydrogen to form NH_3 .

Statement II: Nitrogen cycle includes fixation of molecular N_2 to ammonia to nitrite to nitrate only. It does not include denitrification process.

In light of the above statements, choose the **correct** answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

[Question ID = 702][Question Description = 156_89_EMS_SEP22_S2_Q56]

1. 1 [Option ID = 2805]
2. 2 [Option ID = 2806]
3. 3 [Option ID = 2807]
4. 4 [Option ID = 2808]

57)

Given below are two statements

Statement I: Halons used as fire extinguishers are bromine containing hydrogen free substances and are involved in catalytic destruction of ozone in Stratosphere.

Statement II: In order to protect ozone layer in stratosphere, use of CFC was globally replaced by HCFC's, HFC's followed by Halons after Kyoto protocol.

In light of the above statements, choose the **correct** answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

[Question ID = 703][Question Description = 157_89_EMS_SEP22_S2_Q57]

1. 1 [Option ID = 2809]
2. 2 [Option ID = 2810]
3. 3 [Option ID = 2811]
4. 4 [Option ID = 2812]

58)

Given below are two statements

Statement I: Yellow carotenes and pale-yellow xanthophyll pigments are with strong reflectance primarily in the blue wavelength regime of Electromagnetic Radiation (EMR).

Statement II: There are many other pigments present in the palisade mesophyll cells that are usually masked by the abundance of chlorophyll pigments.

In light of the above statements, choose the **correct** answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

[Question ID = 704][Question Description = 158_89_EMS_SEP22_S2_Q58]

1. 1 [Option ID = 2813]
2. 2 [Option ID = 2814]
3. 3 [Option ID = 2815]
4. 4 [Option ID = 2816]

59)

Given below are two statements

Statement I: Ecotypes are discrete entity because they have clear differences in morphology, physiology and phenology in relation to particular environmental conditions.

Statement II: The environmentally induced variations in ecotypes are not heritable and do not have adaptive value to a particular habitat.

In light of the above statements, choose the **correct** answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

[Question ID = 705][Question Description = 159_89_EMS_SEP22_S2_Q59]

1. 1 [Option ID = 2817]
2. 2 [Option ID = 2818]
3. 3 [Option ID = 2819]
4. 4 [Option ID = 2820]

60)

Given below are two statements

Statement I: A confined aquifer is an aquifer which is confined between impervious beds such as aquicludes or aquifuges.

Statement II: Recharge of this aquifer takes place only in the area where it is exposed at the ground surface.

In light of the above statements, choose the **correct** answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

[Question ID = 706][Question Description = 160_89_EMS_SEP22_S2_Q60]

1. 1 [Option ID = 2821]
2. 2 [Option ID = 2822]
3. 3 [Option ID = 2823]
4. 4 [Option ID = 2824]

61)

Given below are two statements

Statement I: Noise pollution exists in the form of energy and is highly subjective in nature unlike air pollution.

Statement II: Noise pollution exists irrespective of loudness of sound and causes both physiological and psychological stress among individual or group of individuals.

In light of the above statements, choose the **correct** answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

[Question ID = 707][Question Description = 161_89_EMS_SEP22_S2_Q61]

1. 1 [Option ID = 2825]
2. 2 [Option ID = 2826]
3. 3 [Option ID = 2827]
4. 4 [Option ID = 2828]

62)

Given below are two statements about Baghouse filter used to control air pollution

Statement I: Baghouse filters are fabric bag filter which can be repeatedly cleaned and reused. Collection efficiency can be very high (99.9% for all size of particles).

Statement II: Collection efficiency of baghouse filters decreases as dust collected on filters and lead to decrease in pressure drop which increases airflow or decreases cost of forcing air through filters.

In light of the above statements, choose the **correct** answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

[Question ID = 708][Question Description = 162_89_EMS_SEP22_S2_Q62]

1. 1 [Option ID = 2829]
2. 2 [Option ID = 2830]
3. 3 [Option ID = 2831]
4. 4 [Option ID = 2832]

63)

Given below are two statements

Statement I: An incineration process used to destroy highly toxic and hazardous waste differs from the municipal solid waste incineration process.

Statement II: Incineration emits small but significant amounts of numerous toxic chemicals and produces ash residues (bottom and flyash) which must be buried in approved landfills.

In light of the above statements, choose the **correct** answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

[Question ID = 709][Question Description = 163_89_EMS_SEP22_S2_Q63]

1. 1 [Option ID = 2833]
2. 2 [Option ID = 2834]
3. 3 [Option ID = 2835]
4. 4 [Option ID = 2836]

64)

Given below are two statements

Statement I: Student t-test is a non-parametric test.

Statement II: Paired t-test compares the two correlated sample means.

In light of the above statements, choose the **correct** answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

[Question ID = 710][Question Description = 164_89_EMS_SEP22_S2_Q64]

1. 1 [Option ID = 2837]
2. 2 [Option ID = 2838]
3. 3 [Option ID = 2839]
4. 4 [Option ID = 2840]

65)

Which of the following compounds in dirty dozens' list of POPs are formed as byproduct of other compounds and not applied directly in environment?

A. DDT

B. Dioxins

C. Hexachlorobenzene

D. Furans

E. Heptachlor

Choose the **correct** answer from the options given below:

1. C and E only
2. B and D only
3. A, C and E only
4. A and E only

[Question ID = 711][Question Description = 165_89_EMS_SEP22_S2_Q65]

1. 1 [Option ID = 2841]
2. 2 [Option ID = 2842]
3. 3 [Option ID = 2843]
4. 4 [Option ID = 2844]

66)

Which of the following is correct for AAS ?

A. It can only analyze single element at a time.

B. It has low linear dynamic range.

C. It can analyze Hg in vapor phase.

D. It can analyze arsenic in hydride form.

E. It works on principle of Beer Lambert's law.

Choose the **correct** answer from the options given below:

1. B, C, D and E only
2. A, D and E only
3. A, B, C, D and E
4. A, B, D and E only

[Question ID = 712][Question Description = 166_89_EMS_SEP22_S2_Q66]

1. 1 [Option ID = 2845]
2. 2 [Option ID = 2846]
3. 3 [Option ID = 2847]
4. 4 [Option ID = 2848]

67)

The individual plant populations have following group characteristics

- A. Density
- B. Age
- C. Ratios
- D. Natality
- E. Dominance

Choose the **correct** answer from the options given below:

- 1. A, B, C and D only
- 2. A, C, D and E only
- 3. A, B, D and E only
- 4. B, C, D and E only

[Question ID = 713][Question Description = 167_89_EMS_SEP22_S2_Q67]

- 1. 1 [Option ID = 2849]
- 2. 2 [Option ID = 2850]
- 3. 3 [Option ID = 2851]
- 4. 4 [Option ID = 2852]

68)

In the layered structure of the Earth, mantle is mostly made up of

- A. Na and K
- B. Mg and Fe
- C. Ni
- D. Si
- E. Al

Choose the **correct** answer from the options given below:

- 1. A and B only
- 2. B and C only
- 3. B and D only
- 4. A and E only

[Question ID = 714][Question Description = 168_89_EMS_SEP22_S2_Q68]

- 1. 1 [Option ID = 2853]
- 2. 2 [Option ID = 2854]
- 3. 3 [Option ID = 2855]
- 4. 4 [Option ID = 2856]

69)

Which of the following is not true about Solar Energy?

- A. It has low environmental impact.
- B. It is intermittent in its availability and requires efficient storage for continuous power supply.
- C. Receives high regulatory credit from government in recognition of low amount of air pollution and GHG emission.
- D. It has low operating cost.
- E. It provides low density of energy per unit collection surface area.

Choose the **correct** answer from the options given below:

- 1. A and D only
- 2. B and E only
- 3. C only
- 4. B only

[Question ID = 715][Question Description = 169_89_EMS_SEP22_S2_Q69]

- 1. 1 [Option ID = 2857]
- 2. 2 [Option ID = 2858]
- 3. 3 [Option ID = 2859]
- 4. 4 [Option ID = 2860]

70)

Deep open Benthos Communities

- A. extend from the boundary of continental shelf to the deepest oceans.
- B. often are entirely heterotrophic living on and in mud surface and bacteria.
- C. include plankton and large swimming animals.
- D. are rich in biodiversity through strange, occupying permanent cold and dark water.
- E. are nutrient rich water supporting growth of organisms.

Choose the **correct** answer from the options given below:

- 1. B, C and D only
- 2. A, B and C only
- 3. A, B and D only
- 4. B, D and E only

[Question ID = 716][Question Description = 170_89_EMS_SEP22_S2_Q70]

- 1. 1 [Option ID = 2861]
- 2. 2 [Option ID = 2862]
- 3. 3 [Option ID = 2863]
- 4. 4 [Option ID = 2864]

71)

BOD test is commonly used to

- A. determine amount of oxygen required for biological treatment of organic matter present in waste water.
- B. determine size of waste water treatment facility.
- C. assess efficiency of treatment process.
- D. determine compliance with wastewater discharge limits.

Choose the **correct** answer from the options given below:

- 1. D only
- 2. A, B and C only
- 3. B, C and D only
- 4. A, B, C and D

[Question ID = 717][Question Description = 171_89_EMS_SEP22_S2_Q71]

- 1. 1 [Option ID = 2865]
- 2. 2 [Option ID = 2866]
- 3. 3 [Option ID = 2867]
- 4. 4 [Option ID = 2868]

72)

Which of the following recognise low- waste approach ?

- A. Linear Economy/Path of development
- B. Circular Economy/Path of development
- C. Waste Management
- D. Waste Reduction
- E. Primary pollution and waste prevention

Choose the **correct** answer from the options given below:

- 1. A and C only
- 2. B, D and E only
- 3. A, C and E only
- 4. C and D only

[Question ID = 718][Question Description = 172_89_EMS_SEP22_S2_Q72]

- 1. 1 [Option ID = 2869]
- 2. 2 [Option ID = 2870]
- 3. 3 [Option ID = 2871]
- 4. 4 [Option ID = 2872]

73)

Which one of the following are four major waste types identified based on Physical characteristics?

- A. Solid Waste
- B. Sludge and Slurry Waste
- C. Combustible Waste
- D. Reactive Waste
- E. Waste Water

Choose the **correct** answer from the options given below:

- 1. A, B, C and D only
- 2. A, C and D only
- 3. A, B, C and E only
- 4. B, C, D and E only

[Question ID = 719][Question Description = 173_89_EMS_SEP22_S2_Q73]

- 1. 1 [Option ID = 2873]
- 2. 2 [Option ID = 2874]
- 3. 3 [Option ID = 2875]
- 4. 4 [Option ID = 2876]

74)

EIA is usually required for a development project when

- A. Limited impacts are expected in the environment.
- B. There are potentials for transboundary impact.
- C. Many people are likely to be affected by the project.
- D. No cumulative impacts are expected.
- E. There are protected areas in the project area of influence.

Choose the **correct** answer from the options given below:

- 1. A, B and D only
- 2. B, C and E only
- 3. B and D only
- 4. C, D and E only

[Question ID = 720][Question Description = 174_89_EMS_SEP22_S2_Q74]

- 1. 1 [Option ID = 2877]
- 2. 2 [Option ID = 2878]
- 3. 3 [Option ID = 2879]
- 4. 4 [Option ID = 2880]

75)

The facts related to P-value:

- A. It is the probability of type-II error which is fixed in advance.
- B. It is the probability of type-I error which is calculated based on data.
- C. It is the probability of type-I error which is fixed in advance.
- D. It should be less than the level of significance for having significant result.
- E. It is the probability of type-II error which is calculated based on data.

Choose the **correct** answer from the options given below:

- 1. B and D only
- 2. A and C only
- 3. C and E only
- 4. C and D only

[Question ID = 721][Question Description = 175_89_EMS_SEP22_S2_Q75]

- 1. 1 [Option ID = 2881]
- 2. 2 [Option ID = 2882]
- 3. 3 [Option ID = 2883]
- 4. 4 [Option ID = 2884]

76)

The 95% confidence interval of sample mean can be calculated by:

- A. Sample mean \pm 1.96 (Standard deviation)
- B. Sample mean \pm 1.96 (Standard Error)
- C. Sample mean \pm 1.96 (Standard Error/ $\sqrt{\text{Sample size}}$)
- D. Sample mean \pm 1.96 (Standard deviation/ $\sqrt{\text{Sample size}}$)
- E. Sample mean \pm 1.96 (Variance/ $\sqrt{\text{Sample size}}$)

Choose the **correct** answer from the options given below:

- 1. A and E only
- 2. B and D only
- 3. A and C only
- 4. B and C only

[Question ID = 722][Question Description = 176_89_EMS_SEP22_S2_Q76]

- 1. 1 [Option ID = 2885]
- 2. 2 [Option ID = 2886]
- 3. 3 [Option ID = 2887]
- 4. 4 [Option ID = 2888]

77)

Which of the following are parametric tests?

- A. χ^2 - test
- B. Paired t-test
- C. McNemar's Test
- D. F - test
- E. Wilcoxon - signed-rank test

Choose the **correct** answer from the options given below:

- 1. A and C only
- 2. B and C only
- 3. D and E only
- 4. B and D only

[Question ID = 723][Question Description = 177_89_EMS_SEP22_S2_Q77]

- 1. 1 [Option ID = 2889]
- 2. 2 [Option ID = 2890]
- 3. 3 [Option ID = 2891]
- 4. 4 [Option ID = 2892]

78)

Which of the following are the properties of Normal Distribution?

- A. Median \pm 2SE covers the 95% of the observations.
- B. Mode \pm 2SE covers the 95% of the observations.
- C. Mean \pm 2SD covers the 95% of the observations.
- D. It is bell shaped and symmetric.
- E. Mean \pm 2SE covers the 95% of the observations.

Choose the **correct** answer from the options given below:

- 1. B and C only
- 2. C and D only
- 3. D and E only
- 4. A and D only

[Question ID = 724][Question Description = 178_89_EMS_SEP22_S2_Q78]

- 1. 1 [Option ID = 2893]
- 2. 2 [Option ID = 2894]
- 3. 3 [Option ID = 2895]
- 4. 4 [Option ID = 2896]

79)

Which of the following is an example of Type-II error?

- A. Probability of not rejecting null hypothesis, when it is actually false.
- B. Probability of rejecting null hypothesis, when it is actually true.
- C. When a drug is actually effective, but declared as not effective.
- D. When a drug is actually not effective, but declared as effective.
- E. When a person is actually not having disease, but declared as diseased by the physician.

Choose the **correct** answer from the options given below:

- 1. B and C only
- 2. C and D only
- 3. A and C only
- 4. A and E only

[Question ID = 725][Question Description = 179_89_EMS_SEP22_S2_Q79]

- 1. 1 [Option ID = 2897]
- 2. 2 [Option ID = 2898]
- 3. 3 [Option ID = 2899]
- 4. 4 [Option ID = 2900]

80)

Match **List I** with **List II**

List I	List II
Wavelength	Response
A. 0.45 - 0.52 μm	I. Absorption band of healthy green vegetation.
B. 0.63 - 0.69 μm	II. Sensitive to turgidity in amount of water in plants.
C. 1.53 - 1.75 μm	III. Increased penetration of water bodies.
D. 2.08 - 2.35 μm	IV. For discrimination of geology.

Choose the **correct** answer from the options given below:

- 1. A - IV, B - I, C - II, D - III
- 2. A - I, B - IV, C - II, D - III
- 3. A - III, B - I, C - II, D - IV
- 4. A - III, B - II, C - I, D - IV

[Question ID = 726][Question Description = 180_89_EMS_SEP22_S2_Q80]

- 1. 1 [Option ID = 2901]
- 2. 2 [Option ID = 2902]
- 3. 3 [Option ID = 2903]
- 4. 4 [Option ID = 2904]

81)

Match **List I** with **List II**

List I	List II
A. Isobars	I. Air moves from sea to land.
B. Land Breeze	II. Ocean current with circular flow.
C. Sea Breeze	III. Air moves from land to sea.
D. Gyres	IV. Lines connect locations with equal pressure.

Choose the **correct** answer from the options given below:

1. A - I, B - II, C - III, D - IV
2. A - IV, B - III, C - I, D - II
3. A - IV, B - II, C - I, D - III
4. A - III, B - II, C - I, D - IV

[Question ID = 727][Question Description = 181_89_EMS_SEP22_S2_Q81]

1. 1 [Option ID = 2905]
2. 2 [Option ID = 2906]
3. 3 [Option ID = 2907]
4. 4 [Option ID = 2908]

82)

Match **List I** with **List II**

List I	List II
A. Exosphere	I. Ozone Formation
B. Stratosphere	II. Propagation of radio waves
C. Troposphere	III. High temperatures due to solar radiation
D. Thermosphere	IV. Air movements and cloud formation

Choose the **correct** answer from the options given below:

1. A - IV, B - II, C - I, D - III
2. A - III, B - I, C - IV, D - II
3. A - I, B - II, C - III, D - IV
4. A - III, B - I, C - II, D - IV

[Question ID = 728][Question Description = 182_89_EMS_SEP22_S2_Q82]

1. 1 [Option ID = 2909]
2. 2 [Option ID = 2910]
3. 3 [Option ID = 2911]
4. 4 [Option ID = 2912]

83)

Match **List I** with **List II**

List I	List II
Theory	Proponent
A. Monoclimax Theory	I. Watt (1947)
B. Polyclimax Theory	II. Whittaker (1953)
C. Climaxpattern Theory	III. Tansley (1920)
D. Cyclic Climax Theory	IV. Clements (1938)

Choose the **correct** answer from the options given below:

1. A - IV, B - II, C - III, D - I
2. A - IV, B - III, C - II, D - I
3. A - II, B - III, C - I, D - IV
4. A - III, B - IV, C - I, D - II

[Question ID = 729][Question Description = 183_89_EMS_SEP22_S2_Q83]

1. 1 [Option ID = 2913]
2. 2 [Option ID = 2914]
3. 3 [Option ID = 2915]
4. 4 [Option ID = 2916]

84)

Match **List I** with **List II**

List I	List II
Name	Major Characteristics
A. Andisols	I. Permafrost, often with cryoturbation
B. Gelisols	II. High in swelling clays, deep cracks when soil is dry
C. Histosols	III. Form volcanic ejecta, dominated by allophane or Al-humic complexes
D. Vertisols	IV. Peat or bog ; > 20% organic matter

Choose the **correct** answer from the options given below:

1. A - II, B - III, C - IV, D - I
2. A - III, B - I, C - IV, D - II
3. A - IV, B - III, C - II, D - I
4. A - I, B - II, C - III, D - IV

[Question ID = 730][Question Description = 184_89_EMS_SEP22_S2_Q84]

1. 1 [Option ID = 2917]
2. 2 [Option ID = 2918]
3. 3 [Option ID = 2919]
4. 4 [Option ID = 2920]

85)

Match **List I** with **List II**

List I	List II
Species	Chemical formula
A. Arsenate	I. P_3O_4
B. Red lead	II. $(AsO_4)^{3-}$
C. White lead	III. $Pb_3(CO_3)_2(OH)_2$
D. Arsenite	IV. $(AsO_3)^{3-}$

Choose the **correct** answer from the options given below:

1. A - IV, B - I, C - III, D - II
2. A - II, B - I, C - III, D - IV
3. A - II, B - III, C - I, D - IV
4. A - IV, B - III, C - I, D - II

[Question ID = 731][Question Description = 185_89_EMS_SEP22_S2_Q85]

1. 1 [Option ID = 2921]
2. 2 [Option ID = 2922]
3. 3 [Option ID = 2923]
4. 4 [Option ID = 2924]

86)

Match **List I** with **List II**

List I	List II
Green House Gas	Global Warming Potential (GWP) (in 20yrs time period)
A. CO_2	I. 360
B. CH_4	II. 50
C. N_2O	III. 280
D. CH_3CCl_3	IV. 1

Choose the **correct** answer from the options given below:

1. A - II, B - I, C - III, D - IV
2. A - I, B - II, C - IV, D - III
3. A - III, B - II, C - I, D - IV
4. A - IV, B - II, C - III, D - I

[Question ID = 732][Question Description = 186_89_EMS_SEP22_S2_Q86]

1. 1 [Option ID = 2925]
2. 2 [Option ID = 2926]
3. 3 [Option ID = 2927]
4. 4 [Option ID = 2928]

87)

Match **List I** with **List II**

List I	List II
A. Above ground landfills	I. Control of surface draining
B. Below ground landfills	II. Control inflowing water
C. Slope landfills	III. Liner and leachate content system
D. Valley landfills	IV. Low permeability liners

Choose the **correct** answer from the options given below:

1. A - I, B - II, C - IV, D - III
2. A - I, B - II, C - III, D - IV
3. A - III, B - II, C - IV, D - I
4. A - IV, B - III, C - II, D - I

[Question ID = 733][Question Description = 187_89_EMS_SEP22_S2_Q87]

1. 1 [Option ID = 2929]
2. 2 [Option ID = 2930]
3. 3 [Option ID = 2931]
4. 4 [Option ID = 2932]

88)

Match **List I** with **List II**

List I	List II
Statistical Method	Purpose
A. Standard Deviation	I. To predict the dependent variable on the basis of independent variables.
B. Standard Error	II. To describe the variability in a sample.
C. Regression Analysis	III. To construct the 95% confidence interval.
D. Bonferroni's method	IV. Used after ANOVA, if $p < 0.05$.

Choose the **correct** answer from the options given below:

1. A - I, B - III, C - IV, D - II
2. A - III, B - IV, C - II, D - I
3. A - II, B - III, C - I, D - IV
4. A - IV, B - II, C - III, D - I

[Question ID = 734][Question Description = 188_89_EMS_SEP22_S2_Q88]

1. 1 [Option ID = 2933]
2. 2 [Option ID = 2934]
3. 3 [Option ID = 2935]
4. 4 [Option ID = 2936]

89)

Match **List I** with **List II**

List I	List II
A. Geological Hazard	I. Nuclear Explosion
B. Chemical Hazard	II. Pandemic
C. Hydro - meteorological Hazard	III. Tsunami
D. Biological Hazard	IV. Drought

Choose the **correct** answer from the options given below:

1. A - IV, B - III, C - II, D - I
2. A - III, B - I, C - IV, D - II
3. A - I, B - III, C - IV, D - II
4. A - III, B - I, C - II, D - IV

[Question ID = 735][Question Description = 189_89_EMS_SEP22_S2_Q89]

1. 1 [Option ID = 2937]
2. 2 [Option ID = 2938]
3. 3 [Option ID = 2939]
4. 4 [Option ID = 2940]

90)

Match **List I** with **List II**

List I	List II
A. Pong dam Lake	I. Tamil Nadu
B. Harike Lake	II. Andhra Pradesh
C. Kollerur Lake	III. Himachal Pradesh
D. Point Calimere	IV. Punjab

Choose the **correct** answer from the options given below:

1. A - I, B - IV, C - II, D - III
2. A - III, B - II, C - IV, D - I
3. A - III, B - IV, C - II, D - I
4. A - I, B - II, C - IV, D - III

[Question ID = 736][Question Description = 190_89_EMS_SEP22_S2_Q90]

1. 1 [Option ID = 2941]
2. 2 [Option ID = 2942]
3. 3 [Option ID = 2943]
4. 4 [Option ID = 2944]

Topic:- 89_PARTB_S2

1) Read the given passage and answer the questions that follow

The chemistry of rainwater has been extensively studied. The pH of pure water, i.e, neither acidic nor basic, is 7.0. Even in the pristine environment rain is slightly acidic (5.6 pH) in comparison to neutral pH of 7 for water because of presence of natural CO_2 in atmosphere. Acid forming precursor gases, e.g., SO_2 and NO_x further lowers pH of rainwater and such rain water having pH less than 5.6 (pH of natural rainwater) are termed as acidic rain.

However nitrogen oxide species before combining with water droplets to form nitric acid undergoes photodissociation.

Acidic rain adversely impacts soil, monuments and fresh water lakes that are downwind from large source of SO_2 and NO_x such as coal fired thermal power plants. Acidic rainwater reduces cation exchange capacity of the soil and hence crop productivity of the soil. Cations are washed away with acidic rainwater leads to enrichment of basic nutrients in lakes in downstream areas. Similarly acidic rainwater decreases lake water pH and introduces Al^{3+} toxicity and increases solubility of other metals. The effect of acid rain depends on buffering capacity of soil and lakes. Lakes and soils having calcium carbonate are less vulnerable to change in pH due to acid rain.

The Eastern United states and Eastern Europe have been severally impacted by acid rain whereas cases of acidic rain are very limited in northern India irrespective of high SO_2 and NO_x emissions. This is because of carbonate rich dust present in atmosphere. Emission control, e.g, sulphur reduction in coal SO_2 and NO_x reduction from smoke stack of thermal power plants are partially directed towards reducing chances of acid rain.

What could be the pH of rain water in pristine environment in comparison to the pure water?

1. Neutral
2. Basic
3. Acidic
4. Both Acidic and Basic

[Question ID = 737][Question Description = 191_89_EMS_SEP22_S2_Q91]

1. 1 [Option ID = 2945]
2. 2 [Option ID = 2946]
3. 3 [Option ID = 2947]
4. 4 [Option ID = 2948]

2) Read the given passage and answer the questions that follow

The chemistry of rainwater has been extensively studied. The pH of pure water, i.e. neither acidic nor basic, is 7.0. Even in the pristine environment rain is slightly acidic (5.6 pH) in comparison to neutral pH of 7 for water because of presence of natural CO_2 in atmosphere. Acid forming precursor gases, e.g., SO_2 and NO_x further lowers pH of rainwater and such rain water having pH less than 5.6 (pH of natural rainwater) are termed as acidic rain.

However nitrogen oxide species before combining with water droplets to form nitric acid undergoes photodissociation.

Acidic rain adversely impacts soil, monuments and fresh water lakes that are downwind from large source of SO_2 and NO_x such as coal fired thermal power plants. Acidic rainwater reduces cation exchange capacity of the soil and hence crop productivity of the soil. Cations are washed away with acidic rainwater leads to enrichment of basic nutrients in lakes in downstream areas. Similarly acidic rainwater decreases lake water pH and introduces Al^{3+} toxicity and increases solubility of other metals. The effect of acid rain depends on buffering capacity of soil and lakes. Lakes and soils having calcium carbonate are less vulnerable to change in pH due to acid rain.

The Eastern United states and Eastern Europe have been severally impacted by acid rain whereas cases of acidic rain are very limited in northern India irrespective of high SO_2 and NO_x emissions. This is because of carbonate rich dust present in atmosphere. Emission control, e.g, sulphur reduction in coal SO_2 and NO_x reduction from smoke stack of thermal power plants are partially directed towards reducing chances of acid rain.

The acid rain is in fact a cocktail of H_2SO_4 and HNO_3 and the ratio of two may vary depending on relative quantities of oxides of Sulphur and nitrogen emitted. On an average, the acidity in rainwater is ascribed as one of the following combinations :

1. $\text{H}_2\text{SO}_4 = \text{H}_2\text{CO}_3$
2. $\text{H}_2\text{SO}_4 < \text{HNO}_3$
3. $\text{H}_2\text{SO}_4 = \text{HNO}_3$
4. $\text{H}_2\text{SO}_4 > \text{HNO}_3$

[Question ID = 738][Question Description = 192_89_EMS_SEP22_S2_Q92]

1. 1 [Option ID = 2949]
2. 2 [Option ID = 2950]
3. 3 [Option ID = 2951]
4. 4 [Option ID = 2952]

3) Read the given passage and answer the questions that follow

The chemistry of rainwater has been extensively studied. The pH of pure water, i.e, neither acidic nor basic, is 7.0. Even in the pristine environment rain is slightly acidic (5.6 pH) in comparison to neutral pH of 7 for water because of presence of natural CO_2 in atmosphere. Acid forming precursor gases, e.g., SO_2 and NO_x further lowers pH of rainwater and such rain water having pH less than 5.6 (pH of natural rainwater) are termed as acidic rain.

However nitrogen oxide species before combining with water droplets to form nitric acid undergoes photodissociation.

Acidic rain adversely impacts soil, monuments and fresh water lakes that are downwind from large source of SO_2 and NO_x such as coal fired thermal power plants. Acidic rainwater reduces cation exchange capacity of the soil and hence crop productivity of the soil. Cations are washed away with acidic rainwater leads to enrichment of basic nutrients in lakes in downstream areas. Similarly acidic rainwater decreases lake water pH and introduces Al^{3+} toxicity and increases solubility of other metals. The effect of acid rain depends on buffering capacity of soil and lakes. Lakes and soils having calcium carbonate are less vulnerable to change in pH due to acid rain.

The Eastern United states and Eastern Europe have been severally impacted by acid rain whereas cases of acidic rain are very limited in northern India irrespective of high SO_2 and NO_x emissions. This is because of carbonate rich dust present in atmosphere. Emission control, e.g, sulphur reduction in coal SO_2 and NO_x reduction from smoke stack of thermal power plants are partially directed towards reducing chances of acid rain.

Acid rain in a tropical environment does not result in

1. degradation of land flora and fauna.
2. corrosion of bridges and railings.
3. adverse changes in aquatic life.
4. increase in soil fertility.

[Question ID = 739][Question Description = 193_89_EMS_SEP22_S2_Q93]

1. 1 [Option ID = 2953]
2. 2 [Option ID = 2954]
3. 3 [Option ID = 2955]
4. 4 [Option ID = 2956]

4) Read the given passage and answer the questions that follow

The chemistry of rainwater has been extensively studied. The pH of pure water, i.e, neither acidic nor basic, is 7.0. Even in the pristine environment rain is slightly acidic (5.6 pH) in comparison to neutral pH of 7 for water because of presence of natural CO_2 in atmosphere. Acid forming precursor gases, e.g., SO_2 and NO_x further lowers pH of rainwater and such rain water having pH less than 5.6 (pH of natural rainwater) are termed as acidic rain.

However nitrogen oxide species before combining with water droplets to form nitric acid undergoes photodissociation.

Acidic rain adversely impacts oil, monuments and fresh water lakes that are downwind from large source of SO_2 and NO_x such as coal fired thermal power plants. Acidic rainwater reduces cation exchange capacity of the soil and hence crop productivity of the soil. Cations are washed away with acidic rainwater leads to enrichment of basic nutrients in lakes in downstream areas. Similarly acidic rainwater decreases lake water pH and introduces Al^{3+} toxicity and increases solubility of other metals. The effect of acid rain depends on buffering capacity of soil and lakes. Lakes and soils having calcium carbonate are less vulnerable to change in pH due to acid rain.

The Eastern United states and Eastern Europe have been severally impacted by acid rain whereas cases of acidic rain are very limited in northern India irrespective of high SO_2 and NO_x emissions. This is because of carbonate rich dust present in atmosphere. Emission control, e.g, sulphur reduction in coal SO_2 and NO_x reduction from smoke stack of thermal power plants are partially directed towards reducing chances of acid rain.

Which one of the following gases is dominantly responsible for acid rain?

1. CO_2
2. SO_2
3. CH_4
4. NO_2

[Question ID = 740][Question Description = 194_89_EMS_SEP22_S2_Q94]

1. 1 [Option ID = 2957]
2. 2 [Option ID = 2958]
3. 3 [Option ID = 2959]
4. 4 [Option ID = 2960]

5) Read the given passage and answer the questions that follow

The chemistry of rainwater has been extensively studied. The pH of pure water, i.e. neither acidic nor basic, is 7.0. Even in the pristine environment rain is slightly acidic (5.6 pH) in comparison to neutral pH of 7 for water because of presence of natural CO_2 in atmosphere. Acid forming precursor gases, e.g., SO_2 and NO_x further lowers pH of rainwater and such rain water having pH less than 5.6 (pH of natural rainwater) are termed as acidic rain.

However nitrogen oxide species before combining with water droplets to form nitric acid undergoes photodissociation.

Acidic rain adversely impacts soil, monuments and fresh water lakes that are downwind from large source of SO_2 and NO_x such as coal fired thermal power plants. Acidic rainwater reduces cation exchange capacity of the soil and hence crop productivity of the soil. Cations are washed away with acidic rainwater leads to enrichment of basic nutrients in lakes in downstream areas. Similarly acidic rainwater decreases lake water pH and introduces Al^{3+} toxicity and increases solubility of other metals. The effect of acid rain depends on buffering capacity of soil and lakes. Lakes and soils having calcium carbonate are less vulnerable to change in pH due to acid rain.

The Eastern United states and Eastern Europe have been severally impacted by acid rain whereas cases of acidic rain are very limited in northern India irrespective of high SO_2 and NO_x emissions. This is because of carbonate rich dust present in atmosphere. Emission control, e.g, sulphur reduction in coal SO_2 and NO_x reduction from smoke stack of thermal power plants are partially directed towards reducing chances of acid rain.

Why northern India does not have instances of acid rain whereas Eastern United States and Eastern Europe are severely impacted ?

1. Low SO_2 emissions
2. Low NO_x emissions
3. Presence of carbonate rich particles
4. Better fuel quality and pollution control

[Question ID = 741][Question Description = 195_89_EMS_SEP22_S2_Q95]

1. 1 [Option ID = 2961]
2. 2 [Option ID = 2962]
3. 3 [Option ID = 2963]
4. 4 [Option ID = 2964]

Topic:- 89_PARTC_S2

1) Read the given passage and answer the questions that follow

Pesticides have not been as effective in reducing crop losses in United States as agriculture experts hoped. Pesticides can promote genetic resistance to their effects, wipe out natural enemies of pests species, create new pests species, end up in the environment, and sometimes harm wildlife and people. Use of synthetic pesticides increased 33 fold since 1942 whereas 37% food supply is lost to pests today compared to 31% in 1940s. Since 1942, loses attributed to insects almost doubled from 7 to 13% despite a 10 fold increase in synthetic insecticides. The estimated environmental, health and social cost of pesticides was in the range of 100-200 billions USD per year. Alternative pest management practices could halve the use of chemical pesticides on forty major US crops without reducing crop yield. In fact, yield me actually increased without chemical pesticides. Sweden has reduced pesticides use with almost no decrease in crop yield. After a 2/3rd cut in pesticide use on rice in Indonesia yields increased by 15%. The pesticides make a circle of poison, residue of some banned/approved chemicals exported to other countries can return to the exporting countries on imported food. According to a study, only 0.1- 0.2% of insecticides applied to crop by aerial or ground spraying reaches the target pests and can undergo bioaccumulation and bio-magnification. The wind can also carry persistent organic pesticide such as DDT from one country to another. In 2000, more than hundred countries reached an international agreement to ban or phase out the use of twelve specially hazardous persistent organic pollutants (POPs), and nine of them were persistent hydrocarbon pesticide such as DDT and other chemically similar pesticides.

Which of the following characteristics of synthetic chemical pesticides is NOT globally true ?

1. Can cause genetic changes in pests resistance to them.
2. Eliminate pest species from the field of their continuous application.
3. Can create new pest species.
4. Never harm wildlife and human health.

[Question ID = 742][Question Description = 196_89_EMS_SEP22_S2_Q96]

1. 1 [Option ID = 2965]
2. 2 [Option ID = 2966]
3. 3 [Option ID = 2967]
4. 4 [Option ID = 2968]

2) Read the given passage and answer the questions that follow

Pesticides have not been as effective in reducing crop losses in United States as agriculture experts hoped. Pesticides can promote genetic resistance to their effects, wipe out natural enemies of pests species, create new pests species, end up in the environment, and sometimes harm wildlife and people. Use of synthetic pesticides increased 33 fold since 1942 whereas 37% food supply is lost to pests today compared to 31% in 1940s. Since 1942, losses attributed to insects almost doubled from 7 to 13% despite a 10 fold increase in synthetic insecticides. The estimated environmental, health and social cost of pesticides was in the range of 100-200 billions USD per year. Alternative pest management practices could halve the use of chemical pesticides on forty major US crops without reducing crop yield. In fact, yield me actually increased without chemical pesticides. Sweden has reduced pesticides use with almost no decrease in crop yield. After a 2/3rd cut in pesticide use on rice in Indonesia yields increased by 15%. The pesticides make a circle of poison, residue of some banned/approved chemicals exported to other countries can return to the exporting countries on imported food. According to a study, only 0.1- 0.2% of insecticides applied to crop by aerial or ground spraying reaches the target pests and can undergo bioaccumulation and bio-magnification. The wind can also carry persistent organic pesticide such as DDT from one country to another. In 2000, more than hundred countries reached an international agreement to ban or phase out the use of twelve specially hazardous persistent organic pollutants (POPs), and nine of them were persistent hydrocarbon pesticide such as DDT and other chemically similar pesticides.

Which of the following is NOT true about alternative pest management practices?

1. They could reduce the use of chemical pesticides.
2. They could break the circle of poison.
3. They cannot be applied without compromising on crop yield.
4. They reduce air pollution and bioaccumulation due to POPs.

[Question ID = 743][Question Description = 197_89_EMS_SEP22_S2_Q97]

1. 1 [Option ID = 2969]
2. 2 [Option ID = 2970]
3. 3 [Option ID = 2971]
4. 4 [Option ID = 2972]

3) Read the given passage and answer the questions that follow

Pesticides have not been as effective in reducing crop losses in United States as agriculture experts hoped. Pesticides can promote genetic resistance to their effects, wipe out natural enemies of pests species, create new pests species, end up in the environment, and sometimes harm wildlife and people. Use of synthetic pesticides increased 33 fold since 1942 whereas 37% food supply is lost to pests today compared to 31% in 1940s. Since 1942, losses attributed to insects almost doubled from 7 to 13% despite a 10 fold increase in synthetic insecticides. The estimated environmental, health and social cost of pesticides was in the range of 100-200 billions USD per year. Alternative pest management practices could halve the use of chemical pesticides on forty major US crops without reducing crop yield. In fact, yield me actually increased without chemical pesticides. Sweden has reduced pesticides use with almost no decrease in crop yield. After a 2/3rd cut in pesticide use on rice in Indonesia yields increased by 15%. The pesticides make a circle of poison, residue of some banned/approved chemicals exported to other countries can return to the exporting countries on imported food. According to a study, only 0.1- 0.2% of insecticides applied to crop by aerial or ground spraying reaches the target pests and can undergo bioaccumulation and bio-magnification. The wind can also carry persistent organic pesticide such as DDT from one country to another. In 2000, more than hundred countries reached an international agreement to ban or phase out the use of twelve specially hazardous persistent organic pollutants (POPs), and nine of them were persistent hydrocarbon pesticide such as DDT and other chemically similar pesticides.

Synthetic chemical pesticides are not known for contribution to

1. air pollution.
2. water pollution.
3. increase in crop yield.
4. reduce soil diversity.

[Question ID = 744][Question Description = 198_89_EMS_SEP22_S2_Q98]

1. 1 [Option ID = 2973]
2. 2 [Option ID = 2974]
3. 3 [Option ID = 2975]
4. 4 [Option ID = 2976]

4) Read the given passage and answer the questions that follow

Pesticides have not been as effective in reducing crop losses in United States as agriculture experts hoped. Pesticides can promote genetic resistance to their effects, wipe out natural enemies of pests species, create new pests species, end up in the environment, and sometimes harm wildlife and people. Use of synthetic pesticides increased 33 fold since 1942 whereas 37% food supply is lost to pests today compared to 31% in 1940s. Since 1942, loses attributed to insects almost doubled from 7 to 13% despite a 10 fold increase in synthetic insecticides. The estimated environmental, health and social cost of pesticides was in the range of 100-200 billions USD per year. Alternative pest management practices could halve the use of chemical pesticides on forty major US crops without reducing crop yield. In fact, yield me actually increased without chemical pesticides. Sweden has reduced pesticides use with almost no decrease in crop yield. After a 2/3rd cut in pesticide use on rice in Indonesia yields increased by 15%. The pesticides make a circle of poison, residue of some banned/approved chemicals exported to other countries can return to the exporting countries on imported food. According to a study, only 0.1- 0.2% of insecticides applied to crop by aerial or ground spraying reaches the target pests and can undergo bioaccumulation and bio-magnification. The wind can also carry persistent organic pesticide such as DDT from one country to another. In 2000, more than hundred countries reached an international agreement to ban or phase out the use of twelve specially hazardous persistent organic pollutants (POPs), and nine of them were persistent hydrocarbon pesticide such as DDT and other chemically similar pesticides.

The international agreement to ban or phase out 12 persistent organic pollutants including 9 hydrocarbon pesticides such as DDT have been executed because

- A. nearly 98-99% of them goes in environment after their use via aerial or water spraying.
- B. they enter in the circle of poison.
- C. they reduce crop yield.
- D. they affect human health.
- E. they affect life-forms.

Choose the **correct** answer from the options given below:

- 1. B, C and D only
- 2. A, B and C only
- 3. A, B, C, D and E
- 4. A, B, C and D only

[Question ID = 745][Question Description = 199_89_EMS_SEP22_S2_Q99]

- 1. 1 [Option ID = 2977]
- 2. 2 [Option ID = 2978]
- 3. 3 [Option ID = 2979]
- 4. 4 [Option ID = 2980]

5) Read the given passage and answer the questions that follow

Pesticides have not been as effective in reducing crop losses in United States as agriculture experts hoped. Pesticides can promote genetic resistance to their effects, wipe out natural enemies of pests species, create new pests species, end up in the environment, and sometimes harm wildlife and people. Use of synthetic pesticides increased 33 fold since 1942 whereas 37% food supply is lost to pests today compared to 31% in 1940s. Since 1942, loses attributed to insects almost doubled from 7 to 13% despite a 10 fold increase in synthetic insecticides. The estimated environmental, health and social cost of pesticides was in the range of 100-200 billions USD per year. Alternative pest management practices could halve the use of chemical pesticides on forty major US crops without reducing crop yield. In fact, yield me actually increased without chemical pesticides. Sweden has reduced pesticides use with almost no decrease in crop yield. After a 2/3rd cut in pesticide use on rice in Indonesia yields increased by 15%. The pesticides make a circle of poison, residue of some banned/approved chemicals exported to other countries can return to the exporting countries on imported food. According to a study, only 0.1- 0.2% of insecticides applied to crop by aerial or ground spraying reaches the target pests and can undergo bioaccumulation and bio-magnification. The wind can also carry persistent organic pesticide such as DDT from one country to another. In 2000, more than hundred countries reached an international agreement to ban or phase out the use of twelve specially hazardous persistent organic pollutants (POPs), and nine of them were persistent hydrocarbon pesticide such as DDT and other chemically similar pesticides.

Given below are two statements

Statement I: No use or reduced use of synthetic chemical pesticides is likely to reduce the crop yield as compared to their use.

Statement II: Alternative pest management practices are likely to improve crop yield.

In light of the above statements, choose the **correct** answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

[Question ID = 746][Question Description = 200_89_EMS_SEP22_S2_Q100]

1. 1 [Option ID = 2981]
2. 2 [Option ID = 2982]
3. 3 [Option ID = 2983]
4. 4 [Option ID = 2984]

Topic:- 13_GP_30SEPT22_SH1_S2_A

- 1) The following table presents data about the number of men, women and children and percentage (%) of overweight men, overweight women and overweight children in a city during the last six years from 2016 to 2021.

Year-wise Distribution of Population in a city

Year	Number of			Percentage (%) of Overweight		
	Men	Women	Children	Men	Women	Children
2016	27000	19000	7500	15%	36%	30%
2017	37500	32000	10500	7%	35%	28%
2018	31500	30000	6000	30%	25%	35%
2019	33000	27000	8000	16%	30%	30%
2020	35000	34000	10000	12%	27%	32%
2021	39000	37500	22500	37.50%	22%	36%

What was the average of the number of men, women and children who were overweight in the year 2019?

1. 4812
2. 5016
3. 5395
4. 5260

निम्नलिखित तालिका में पिछले 2016 से 2021 तक के छह वर्षों के दौरान एक शहर में पुरुषों, महिलाओं एवं बच्चों की संख्या और अधिक वज़नी पुरुषों, अधिक वज़नी महिलाओं एवं अधिक वज़नी बच्चों के बारे में डेटा (दत्त) प्रस्तुत किए गए हैं।

एक शहर में जनसंख्या का वर्ष-वार वितरण

वर्ष	संख्या			अधिक वज़नी का प्रतिशत (%)		
	पुरुष	महिलाएं	बच्चे	पुरुष	महिलाएं	बच्चे
2016	27000	19000	7500	15%	36%	30%
2017	37500	32000	10500	7%	35%	28%
2018	31500	30000	6000	30%	25%	35%
2019	33000	27000	8000	16%	30%	30%
2020	35000	34000	10000	12%	27%	32%
2021	39000	37500	22500	37.50%	22%	36%

वर्ष 2019 में उन पुरुषों, महिलाओं और बच्चों की संख्या कितनी थी, जो अधिक वज़नी थे?

1. 4812
2. 5016
3. 5395
4. 5260

1. 1 [Option ID = 2161]
2. 2 [Option ID = 2162]
3. 3 [Option ID = 2163]
4. 4 [Option ID = 2164]

2) The following table presents data about the number of men, women and children and percentage (%) of overweight men, overweight women and overweight children in a city during the last six years from 2016 to 2021.

Year-wise Distribution of Population in a city

Year	Number of			Percentage (%) of Overweight		
	Men	Women	Children	Men	Women	Children
2016	27000	19000	7500	15%	36%	30%
2017	37500	32000	10500	7%	35%	28%
2018	31500	30000	6000	30%	25%	35%
2019	33000	27000	8000	16%	30%	30%
2020	35000	34000	10000	12%	27%	32%
2021	39000	37500	22500	37.50%	22%	36%

The number of overweight men in the year 2021 was what percent of the number of men who were not overweight in the same year?

1. 55%
2. 60%
3. 50.5%
4. 65.5%

निम्नलिखित तालिका में पिछले 2016 से 2021 तक के छह वर्षों के दौरान एक शहर में पुरुषों, महिलाओं एवं बच्चों की संख्या और अधिक वज़नी पुरुषों, अधिक वज़नी महिलाओं एवं अधिक वज़नी बच्चों के बारे में डेटा (दत्त) प्रस्तुत किए गए हैं।

एक शहर में जनसंख्या का वर्ष-वार वितरण

वर्ष	संख्या			अधिक वज़नी का प्रतिशत (%)		
	पुरुष	महिलाएं	बच्चे	पुरुष	महिलाएं	बच्चे
2016	27000	19000	7500	15%	36%	30%
2017	37500	32000	10500	7%	35%	28%
2018	31500	30000	6000	30%	25%	35%
2019	33000	27000	8000	16%	30%	30%
2020	35000	34000	10000	12%	27%	32%
2021	39000	37500	22500	37.50%	22%	36%

वर्ष 2021 में अधिक वज़नी पुरुषों की संख्या उन पुरुषों की संख्या की तुलना में कितने प्रतिशत थी, जो उसी वर्ष में अधिक वज़न की समस्या से पीड़ित नहीं थे ?

1. 55%
2. 60%
3. 50.5%
4. 65.5%

[Question ID = 542][Question Description = 102_0_GP16_SEP22_S2_Q02]

1. 1 [Option ID = 2165]
2. 2 [Option ID = 2166]
3. 3 [Option ID = 2167]
4. 4 [Option ID = 2168]

- 3) The following table presents data about the number of men, women and children and percentage (%) of overweight men, overweight women and overweight children in a city during the last six years from 2016 to 2021.

Year-wise Distribution of Population in a city

Year	Number of			Percentage (%) of Overweight		
	Men	Women	Children	Men	Women	Children
2016	27000	19000	7500	15%	36%	30%
2017	37500	32000	10500	7%	35%	28%
2018	31500	30000	6000	30%	25%	35%
2019	33000	27000	8000	16%	30%	30%
2020	35000	34000	10000	12%	27%	32%
2021	39000	37500	22500	37.50%	22%	36%

What was the ratio of the number of overweight women in the year 2018 to the number of overweight men in the year 2020?

1. 6 : 7
2. 21 : 65
3. 15 : 73
4. 25 : 14

निम्नलिखित तालिका में पिछले 2016 से 2021 तक के छह वर्षों के दौरान एक शहर में पुरुषों, महिलाओं एवं बच्चों की संख्या और अधिक वज़नी पुरुषों, अधिक वज़नी महिलाओं एवं अधिक वज़नी बच्चों के बारे में डेटा (दत्त) प्रस्तुत किए गए हैं।

एक शहर में जनसंख्या का वर्ष-वार वितरण

वर्ष	संख्या			अधिक वज़नी का प्रतिशत (%)		
	पुरुष	महिलाएं	बच्चे	पुरुष	महिलाएं	बच्चे
2016	27000	19000	7500	15%	36%	30%
2017	37500	32000	10500	7%	35%	28%
2018	31500	30000	6000	30%	25%	35%
2019	33000	27000	8000	16%	30%	30%
2020	35000	34000	10000	12%	27%	32%
2021	39000	37500	22500	37.50%	22%	36%

वर्ष 2018 में अधिक वज़नी महिलाओं की संख्या का अनुपात वर्ष 2020 में अधिक वज़नी पुरुषों की तुलना में क्या था ?

1. 6:7
2. 21:65
3. 15:73
4. 25:14

1. 1 [Option ID = 2169]
2. 2 [Option ID = 2170]
3. 3 [Option ID = 2171]
4. 4 [Option ID = 2172]

- 4) The following table presents data about the number of men, women and children and percentage (%) of overweight men, overweight women and overweight children in a city during the last six years from 2016 to 2021.

Year-wise Distribution of Population in a city

Year	Number of			Percentage (%) of Overweight		
	Men	Women	Children	Men	Women	Children
2016	27000	19000	7500	15%	36%	30%
2017	37500	32000	10500	7%	35%	28%
2018	31500	30000	6000	30%	25%	35%
2019	33000	27000	8000	16%	30%	30%
2020	35000	34000	10000	12%	27%	32%
2021	39000	37500	22500	37.50%	22%	36%

What was the difference between the number of overweight women and overweight children together in the year 2018 and the number of overweight men in the same year?

1. 150
2. 450
3. 345
4. 865

निम्नलिखित तालिका में पिछले 2016 से 2021 तक के छह वर्षों के दौरान एक शहर में पुरुषों, महिलाओं एवं बच्चों की संख्या और अधिक वज़नी पुरुषों, अधिक वज़नी महिलाओं एवं अधिक वज़नी बच्चों के बारे में डेटा (दत्त) प्रस्तुत किए गए हैं।

एक शहर में जनसंख्या का वर्ष-वार वितरण

वर्ष	संख्या			अधिक वज़नी का प्रतिशत (%)		
	पुरुष	महिलाएं	बच्चे	पुरुष	महिलाएं	बच्चे
2016	27000	19000	7500	15%	36%	30%
2017	37500	32000	10500	7%	35%	28%
2018	31500	30000	6000	30%	25%	35%
2019	33000	27000	8000	16%	30%	30%
2020	35000	34000	10000	12%	27%	32%
2021	39000	37500	22500	37.50%	22%	36%

वर्ष 2018 में अधिक वज़नी महिलाओं एवं अधिक वज़नी बच्चों की कुल संख्या और उसी वर्ष में अधिक वज़नी पुरुषों की संख्या के बीच क्या अंतर था ?

1. 150
2. 450
3. 345
4. 865

[Question ID = 544][Question Description = 104_0_GP16_SEP22_S2_Q04]

1. 1 [Option ID = 2173]
2. 2 [Option ID = 2174]
3. 3 [Option ID = 2175]
4. 4 [Option ID = 2176]

- 5) The following table presents data about the number of men, women and children and percentage (%) of overweight men, overweight women and overweight children in a city during the last six years from 2016 to 2021.

Year-wise Distribution of Population in a city

Year	Number of			Percentage (%) of Overweight		
	Men	Women	Children	Men	Women	Children
2016	27000	19000	7500	15%	36%	30%
2017	37500	32000	10500	7%	35%	28%
2018	31500	30000	6000	30%	25%	35%
2019	33000	27000	8000	16%	30%	30%
2020	35000	34000	10000	12%	27%	32%
2021	39000	37500	22500	37.50%	22%	36%

What was the total number of children who were not overweight in the year 2016 and 2017 together?

1. 4530
2. 4350
3. 12810
4. 14820

निम्नलिखित तालिका में पिछले 2016 से 2021 तक के छह वर्षों के दौरान एक शहर में पुरुषों, महिलाओं एवं बच्चों की संख्या और अधिक वज़नी पुरुषों, अधिक वज़नी महिलाओं एवं अधिक वज़नी बच्चों के बारे में डेटा (दत्त) प्रस्तुत किए गए हैं।

एक शहर में जनसंख्या का वर्ष-वार वितरण

वर्ष	संख्या			अधिक वज़नी का प्रतिशत (%)		
	पुरुष	महिलाएं	बच्चे	पुरुष	महिलाएं	बच्चे
2016	27000	19000	7500	15%	36%	30%
2017	37500	32000	10500	7%	35%	28%
2018	31500	30000	6000	30%	25%	35%
2019	33000	27000	8000	16%	30%	30%
2020	35000	34000	10000	12%	27%	32%
2021	39000	37500	22500	37.50%	22%	36%

वर्ष 2016 और 2017 में उन बच्चों की कुल संख्या क्या थी, जो अधिक वज़न की समस्या से पीड़ित नहीं थे?

1. 4,530
2. 4,350
3. 12,810
4. 14,820

1. 1 [Option ID = 2177]
2. 2 [Option ID = 2178]
3. 3 [Option ID = 2179]
4. 4 [Option ID = 2180]

Topic:- 13_GP_30SEPT22_SH1_S2_B

1) According to the revised Bloom's taxonomy, which of the following categories is considered to be highest for the learner?

1. Understand
2. Apply
3. Analyse
4. Create

संशोधित ब्लूम की वर्गिकी के अनुसार निम्नलिखित में से किसे अधिगमकर्ता के लिए सर्वोत्तम माना जाता है ?

1. समझना
2. अनुप्रयोग करना
3. विश्लेषण करना
4. सृजन करना

[Question ID = 546][Question Description = 106_0_GP16_SEPT22_S2_Q06]

1. 1 [Option ID = 2181]
2. 2 [Option ID = 2182]
3. 3 [Option ID = 2183]
4. 4 [Option ID = 2184]

2) Which of the following is NOT characteristic of a good question paper?

1. Objectivity
2. Subjectivity
3. Reliability
4. Validation

निम्नांकित में से कौन सी एक उत्तम प्रश्न पत्र की विशेषता नहीं है?

1. वस्तुनिष्ठता
2. व्यक्तिनिष्ठता
3. विश्वसनीयता
4. विधिमान्यता

[Question ID = 547][Question Description = 107_0_GP16_SEPT22_S2_Q07]

1. 1 [Option ID = 2185]
2. 2 [Option ID = 2186]
3. 3 [Option ID = 2187]
4. 4 [Option ID = 2188]

3)

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : MOOCs on the SWAYAM portal can be used for earning upto 40% credits per semester by students.

Reason R : All MOOCs on the SWAYAM portal are credit-based MOOCs.

In light of the above statements, choose the **correct** answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

नीचे दो कथन दिए गए हैं : एक अभिकथन (Assertion A) के रूप में लिखित है तो दूसरा उसके कारण (Reason R) के रूप में;

अभिकथन A : स्वयम पोर्टल पर मूक्स का प्रयोग प्रत्येक सेमेस्टर में विद्यार्थियों द्वारा 40% क्रेडिट अर्जित करने के लिए किया जा सकता है।

कारण R : स्वयम पोर्टल पर सभी मूक क्रेडिट आधारित मूक हैं।

उपर्युक्त कथनों के आलोक में निम्नांकित विकल्पों में से सही उत्तर का चयन कीजिए :

1. A और R दोनों सत्य हैं और R, A की सही व्याख्या है
2. A और R दोनों सत्य हैं, लेकिन R, A की सही व्याख्या नहीं है
3. A सत्य है, लेकिन R असत्य है
4. A असत्य है, लेकिन R सत्य है

[Question ID = 548][Question Description = 108_0_GP16_SEP22_S2_Q08]

1. 1 [Option ID = 2189]
2. 2 [Option ID = 2190]
3. 3 [Option ID = 2191]
4. 4 [Option ID = 2192]

4)

Dynamic approach to teaching means

1. Teaching should be lecture based.
2. Teachers should be energetic.
3. Teachers should be student friendly.
4. Students should learn through activities.

शिक्षण का गत्यात्मक उपागम से अभिप्रेत है :

1. शिक्षण व्याख्यान आधारित होना चाहिए।
2. शिक्षकों को ऊर्जावान होना चाहिए।
3. शिक्षकों को विद्यार्थी के साथ मित्रवत और उनके अनुकूल होना चाहिए।
4. विद्यार्थियों को कार्यकलाप के माध्यम से सीखना चाहिए।

[Question ID = 549][Question Description = 109_0_GP16_SEP22_S2_Q09]

1. 1 [Option ID = 2193]
2. 2 [Option ID = 2194]

3. 3 [Option ID = 2195]

4. 4 [Option ID = 2196]

5)

Match **List I** with **List II**

List I	List II
Concepts	Main Proponent
A. Self-education through development of individuality	I. Sri Aurobindo
B. Integral education	II. Mahatma Gandhi
C. Education to transform human mind	III. Maria Montessori
D. Basic education (Wardha Education System)	IV. J. Krishnamurti

Choose the **correct** answer from the options given below:

1. A - I, B - III, C - IV, D - II

2. A - III, B - I, C - II, D - IV

3. A - III, B - I, C - IV, D - II

4. A - I, B - IV, C - II, D - III

सूची -I को सूची -II से सुमेलित कीजिए :

सूची -I (अवधारणा)	सूची -II (मुख्य प्रतिपादक)
A. व्यक्ति परकता के विकास के माध्यम से आत्म-शिक्षा	I. श्री अरविंदो
B. एकीकृत शिक्षा	II. महात्मा गांधी
C. मानव मस्तिष्क को रूपांतरित करनेवाली शिक्षा	III. मारिया मोटेसरी
D. मौलिक शिक्षा (वर्धा शिक्षा प्रणाली)	IV. जे. कृष्णमूर्ति

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए :

1. A - I, B - III, C - IV, D - II

2. A - III, B - I, C - II, D - IV

3. A - III, B - I, C - IV, D - II

4. A - I, B - IV, C - II, D - III

[Question ID = 550][Question Description = 110_0_GP16_SEP22_S2_Q10]

1. 1 [Option ID = 2197]

2. 2 [Option ID = 2198]

3. 3 [Option ID = 2199]

4. 4 [Option ID = 2200]

6)

Historical research has the limitation of

1. Problem identification

2. Analytical synthesis

3. Universal generalisation

4. Probable conclusions

ऐतिहासिक अनुसंधान का सीमाबन्धन क्या है?

1. समस्या की पहचान
2. विश्लेषणात्मक संश्लेषण
3. सार्वभौमिक सामान्यीकरण
4. संभावित निष्कर्ष

[Question ID = 551][Question Description = 111_0_GP16_SEP22_S2_Q11]

1. 1 [Option ID = 2201]
2. 2 [Option ID = 2202]
3. 3 [Option ID = 2203]
4. 4 [Option ID = 2204]

7)

The term 'Hermeneutics' is drawn from

1. Sociology
2. Theology
3. Anthropology
4. Economics

पद 'शास्त्रार्थमीमांसा' किससे उद्भूत हुआ है?

1. समाजशास्त्र
2. ईश्वरमीमांसा
3. नृविज्ञान
4. अर्थशास्त्र

[Question ID = 552][Question Description = 112_0_GP16_SEP22_S2_Q12]

1. 1 [Option ID = 2205]
2. 2 [Option ID = 2206]
3. 3 [Option ID = 2207]
4. 4 [Option ID = 2208]

8)

Which of the following have been considered as threat to internal validity in research?

- A. Randomisation
- B. Generalisability
- C. Maturation
- D. History
- E. Instrumentation

Choose the **correct** answer from the options given below:

1. A, B and C only
2. B, C and D only
3. C, D and E only
4. A, B and E only

निम्नगत में से किसको अनुसंधान में आन्तरिक वैधता के लिए खतरा माना जाता है?

- A. यादृच्छिकीकरण
- B. सामान्यकरणीयता
- C. परिपक्व
- D. इतिहास
- E. यांत्रिकी

नीचे दिए गए विकल्पों में से सही उत्तर चुनें :

- 1. केवल A, B और C
- 2. केवल B, C और D
- 3. केवल C, D और E
- 4. केवल A, B और E

[Question ID = 553][Question Description = 113_0_GP16_SEP22_S2_Q13]

- 1. 1 [Option ID = 2209]
- 2. 2 [Option ID = 2210]
- 3. 3 [Option ID = 2211]
- 4. 4 [Option ID = 2212]

9)

Given below are two statements

Statement I: The qualitative data are powerful because they are collected from very sensitive social, historical and temporal context.

Statement II: Context sensitivity cannot be completely removed from the qualitative data.

In light of the above statements, choose the **correct** answer from the options given below

- 1. Both Statement I and Statement II are true
- 2. Both Statement I and Statement II are false
- 3. Statement I is true but Statement II is false
- 4. Statement I is false but Statement II is true

नीचे दो कथन दिए गए हैं :

कथन - I : गुणवत्तापरक डेटा (दत्त) शक्तिशाली होते हैं क्योंकि उन्हें अत्यधिक संवेदनशील सामाजिक, ऐतिहासिक और लौकिक परिप्रेक्ष्य से संग्रहित किया जाता है।

कथन - II : गुणवत्तापरक डेटा से संदर्भ संवेदनशीलता को पूरी तरह से हटाया नहीं जा सकता है।

उपर्युक्त कथनों के आलोक में निम्नलिखित विकल्पों में से सही उत्तर चुनें :

- 1. कथन I और II दोनों सत्य हैं।
- 2. कथन I और II दोनों असत्य हैं।
- 3. कथन I सत्य है, लेकिन कथन II असत्य है।
- 4. कथन I असत्य है, लेकिन कथन II सत्य है।

[Question ID = 554][Question Description = 114_0_GP16_SEP22_S2_Q14]

- 1. 1 [Option ID = 2213]
- 2. 2 [Option ID = 2214]
- 3. 3 [Option ID = 2215]

10)

Match **List I** with **List II**

List I	List II
Research Perspective	Discipline
A. Phenomenology	I. Anthropology
B. Ethnography	II. Sociology
C. Ethnomethodology	III. Social psychology
D. Symbolic interactionism	IV. Philosophy

Choose the **correct** answer from the options given below:

1. A - I, B - II, C - III, D - IV
2. A - II, B - III, C - IV, D - I
3. A - III, B - IV, C - I, D - II
4. A - IV, B - I, C - II, D - III

सूची -I को सूची -II से सुमेलित कीजिए :

सूची -I (शोध परिप्रेक्ष्य)	सूची -II (विषय)
A. संवृतिशास्त्र	I. मानव विज्ञान
B. नृजाति वर्णन	II. समाजशास्त्र
C. नृजाति प्रणाली विज्ञान	III. सामाजिक मनोविज्ञान
D. प्रतीकात्मक अंतःक्रियावाद	IV. दर्शनशास्त्र

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए :

1. A - I, B - II, C - III, D - IV
2. A - II, B - III, C - IV, D - I
3. A - III, B - IV, C - I, D - II
4. A - IV, B - I, C - II, D - III

[Question ID = 555][Question Description = 115_0_GP16_SEP22_S2_Q15]

1. 1 [Option ID = 2217]
2. 2 [Option ID = 2218]
3. 3 [Option ID = 2219]
4. 4 [Option ID = 2220]

11)

In face-to-face communication, the non-verbal cues provided by the receiver, can be considered as

1. Feedback
2. Decoding
3. Physical noise
4. Symbolic representation

आमने-सामने सम्प्रेषण में प्राप्तक द्वारा प्रदान किए गए अमौखिक संकेतों को किस रूप में माना जा सकता है?

1. प्रतिपुष्टि (फीडबैक)
2. विसंकेतीकरण
3. भौतिक शोरगुल
4. प्रतीकात्मक प्रतिनिधित्व

[Question ID = 556][Question Description = 116_0_GP16_SEP22_S2_Q16]

1. 1 [Option ID = 2221]
2. 2 [Option ID = 2222]
3. 3 [Option ID = 2223]
4. 4 [Option ID = 2224]

12)

Communication compatibility between individuals is rooted in

1. Stewardship
2. Interest in media
3. Empathy
4. External influence

व्यक्तियों के बीच सम्प्रेषण की संगतता किसमें सन्निहित है?

1. परिचारिकता
2. मीडिया में रूचि
3. तदनुभूति
4. बाह्य प्रभाव

[Question ID = 557][Question Description = 117_0_GP16_SEP22_S2_Q17]

1. 1 [Option ID = 2225]
2. 2 [Option ID = 2226]
3. 3 [Option ID = 2227]
4. 4 [Option ID = 2228]

13)

Which of the following are the advantages of grapevine communication?

- A. Smooth float of adverse comments
- B. Knowing the morale in the organisation
- C. Spread of propagandist views
- D. To know the important issues faced by the employees
- E. Assessment of employee anxieties

Choose the **correct** answer from the options given below:

1. A, B and C only
2. B, C and D only
3. D, C and E only
4. B, D and E only

जन-प्रवाद सम्प्रेषण के निम्नलिखित में से कौनसे लाभ हैं?

- A. प्रतिकूल टिप्पणियों का सुगम प्रवाह
- B. संगठन में मनोबल को जानना
- C. अधिप्रचारक विचारों का फैलाव
- D. कर्मचारी द्वारा सामना किए जाने वाले महत्वपूर्ण मुद्दों को जानना
- E. कर्मचारी की चिंताओं का मूल्यांकन

नीचे दिए गए विकल्पों में से सही उत्तर चुनें :

- 1. केवल A, B और C
- 2. केवल B, C और D
- 3. केवल D, C और E
- 4. केवल B, D और E

[Question ID = 558][Question Description = 118_0_GP16_SEP22_S2_Q18]

- 1. 1 [Option ID = 2229]
- 2. 2 [Option ID = 2230]
- 3. 3 [Option ID = 2231]
- 4. 4 [Option ID = 2232]

14)

Suggestions for communication with people from different cultures can be:

- A. Emphasise your interpretation
- B. Forget your own cultural identity
- C. Promote an eco-system of mutual respect
- D. Know the cultural context of other people
- E. Always state facts

Choose the **correct** answer from the options given below:

- 1. A, B and C only
- 2. C, D and E only
- 3. B, C and E only
- 4. A, D and E only

भिन्न संस्कृतियों के लोगों के साथ सम्प्रेषण के लिए सुझाव हो सकते हैं :

- A. अपनी व्याख्या पर बल देना
- B. अपनी स्वयं की सांस्कृतिक पहचान को भूलना
- C. पारस्परिक सम्मान की एक पारिस्थितिकीय प्रणाली को प्रोत्साहित करना
- D. अन्य लोगों के सांस्कृतिक संदर्भों को जानना
- E. सदैव तथ्य बताना

नीचे दिए गए विकल्पों में से सही उत्तर चुनें :

- 1. केवल A, B और C

2. केवल C, D और E
3. केवल B, C और E
4. केवल A, D और E

[Question ID = 559][Question Description = 119_0_GP16_SEP22_S2_Q19]

1. 1 [Option ID = 2233]
2. 2 [Option ID = 2234]
3. 3 [Option ID = 2235]
4. 4 [Option ID = 2236]

15)

Given below are two statements

Statement I: The new system of communication has facilitated the emergence of an interactive society.

Statement II: The new system of communication is digital and has integrated multiple modes of communication through networks.

In light of the above statements, choose the **correct** answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

नीचे दो कथन दिए गए हैं :

कथन - I : सम्प्रेषण की नई प्रणाली ने एक अतःक्रियात्मक समाज के अभ्युदय को सुगम बनाया है।

कथन - II : सम्प्रेषण की नई प्रणाली डिजिटल है और उसने नेटवर्क के माध्यम से सम्प्रेषण के बहु-विध तरीकों को एकीकृत किया है।

उपर्युक्त कथनों के आलोक में निम्नलिखित विकल्पों में से सही उत्तर चुने :

1. कथन I और II दोनों सत्य हैं।
2. कथन I और II दोनों असत्य हैं।
3. कथन I सत्य है, लेकिन कथन II असत्य है।
4. कथन I असत्य है, लेकिन कथन II सत्य है।

[Question ID = 560][Question Description = 120_0_GP16_SEP22_S2_Q20]

1. 1 [Option ID = 2237]
2. 2 [Option ID = 2238]
3. 3 [Option ID = 2239]

4. 4 [Option ID = 2240]

16)

In a certain code, '467' means 'leaves are green', '485' means 'green is good' and '639' means 'they are playing'. Which digit stands for 'leaves' in that code?

1. 6
2. 7
3. 4
4. 9

एक निश्चित कोड में '467' का अर्थ 'पत्तियाँ हरी हैं', '485' का अर्थ 'हरा रंग अच्छा है' और '639' का अर्थ 'वे खेल रहे हैं'। इस कोड में 'पत्तियों' का अंक कौन सा है?

1. 6
2. 7
3. 4
4. 9

[Question ID = 561][Question Description = 121_0_GP16_SEP22_S2_Q21]

1. 1 [Option ID = 2241]
2. 2 [Option ID = 2242]
3. 3 [Option ID = 2243]
4. 4 [Option ID = 2244]

17)

Find the missing number in the series:

2, 10, 30, 68, 130, 222, ?

1. 350
2. 352
3. 194
4. 104

श्रृंखला में लुप्त पद ज्ञात कीजिए

2, 10, 30, 68, 130, 222, ?

1. 350
2. 352
3. 194
4. 104

[Question ID = 562][Question Description = 122_0_GP16_SEP22_S2_Q22]

1. 1 [Option ID = 2245]
2. 2 [Option ID = 2246]
3. 3 [Option ID = 2247]
4. 4 [Option ID = 2248]

18)

Number of bacteria in a container doubles in every one minute. If the container gets completely filled with bacteria in 30 minutes, then in how many minutes $1/4^{\text{th}}$ of the container shall be filled with bacteria?

1. 15 minutes
2. 16 minutes
3. 28 minutes
4. 25 minutes

एक पात्र में जीवाणुओं (बैक्टीरिया) की संख्या प्रत्येक एक मिनट में दुगुनी हो जाती है। यदि पात्र 30 मिनट में जीवाणुओं से पूरी तरह भर जाता है, तो कितने मिनटों में पात्र का $1/4$ भाग जीवाणुओं से भर जाएगा?

1. 15 मिनट
2. 16 मिनट
3. 28 मिनट
4. 25 मिनट

[Question ID = 563][Question Description = 123_0_GP16_SEP22_S2_Q23]

1. 1 [Option ID = 2249]
2. 2 [Option ID = 2250]
3. 3 [Option ID = 2251]
4. 4 [Option ID = 2252]

19)

Certain number of birds are sitting on two trees A and B. Birds sitting on tree A, tell to the birds sitting on tree B, that if 2 birds from tree B shift to the tree A, then we are equal in number. However, the birds sitting on tree B, tell those sitting on A, that if two birds from your side (tree A) shift to our side (tree B), then we become double than you (tree A). How many birds are sitting on the two trees A and B, respectively?

1. 8, 12
2. 10, 14
3. 14, 10
4. 5, 7

दो वृक्षों A और B पर पक्षियों की एक निश्चित संख्या है। वृक्ष A पर बैठे पक्षी, वृक्ष B पर बैठे पक्षियों से कहते हैं कि यदि वृक्ष B से 2 पक्षी वृक्ष A पर स्थानांतरित हो जाए तो दोनों पर उनकी संख्या समान हो जाएगी। परंतु वृक्ष B पर बैठे पक्षी, A पर बैठे पक्षियों को कहते हैं यदि तुम्हारी तरफ से (वृक्ष A) दो पक्षी हमारी तरफ (वृक्ष B) स्थानांतरित हो जाते हैं, तो उनकी संख्या वृक्ष A से दुगुनी हो जाएगी। दोनों वृक्षों A और B पर क्रमशः कितने पक्षी बैठे हैं?

1. 8, 12
2. 10, 14
3. 14, 10
4. 5, 7

[Question ID = 564][Question Description = 124_0_GP16_SEP22_S2_Q24]

1. 1 [Option ID = 2253]
2. 2 [Option ID = 2254]
3. 3 [Option ID = 2255]
4. 4 [Option ID = 2256]

20)

The average age of students in a class was 15 years. When 5 new boys whose average age was 12 years 6 months were admitted in the class, the average age was reduced by 6 months. How many students were there in the class originally?

1. 15
2. 20
3. 18
4. 16

एक कक्षा में छात्रों की औसत आयु 15 वर्ष है। जब कक्षा में 5 नए लड़कों का पंजीकरण (दाखिला) किया गया, जिनकी औसत आयु 12 वर्ष 6 महीने थी, तो औसत आयु 6 महीने कम हो गई। मूलतः कक्षा में कितने छात्र थे ?

1. 15
2. 20
3. 18
4. 16

[Question ID = 565][Question Description = 125_0_GP16_SEP22_S2_Q25]

1. 1 [Option ID = 2257]
2. 2 [Option ID = 2258]
3. 3 [Option ID = 2259]
4. 4 [Option ID = 2260]

21)

If the statement, 'Some plants are not carnivorous' is given as false, then which of the following could be immediately inferred from it?

- A. 'Some plants are carnivorous' is true
- B. 'Some plants are carnivorous' is false
- C. 'No plants are carnivorous' is false
- D. 'All plants are carnivorous' is true

Choose the **correct** answer from the options given below:

1. B, C and D only
2. A and D only
3. A and C only
4. A, C and D only

अधिकथन "कुछ पौधे माँसभक्षी नहीं होते हैं" को असत्य माना गया है, ऐसी स्थिति में निम्नलिखित में से किसे तात्कालिक अनुमानित किया जा सकता है ?

- A. 'कुछ पौधे माँसभक्षी होते हैं' सही है
- B. 'कुछ पौधे माँसभक्षी होते हैं' गलत है
- C. 'कोई भी पौधा माँसभक्षी नहीं होता है' गलत है
- D. 'सभी पौधे माँसभक्षी होते हैं', सही है

नीचे दिए गए विकल्पों में से सही उत्तर चुनें :

- 1. केवल B, C और D
- 2. केवल A और D
- 3. केवल A और C
- 4. केवल A, C और D

[Question ID = 566][Question Description = 126_0_GP16_SEP22_S2_Q26]

- 1. 1 [Option ID = 2261]
- 2. 2 [Option ID = 2262]
- 3. 3 [Option ID = 2263]
- 4. 4 [Option ID = 2264]

22)

A wise sage has said, "The hunger for knowledge is more difficult to remove than the hunger for food. Therefore, one should stick to the food." Which fallacy is committed in this argument?

- 1. Begging the Question
- 2. False Dilemma
- 3. Ignoratio elenchi (irrelevant conclusion)
- 4. Appeal to Emotion

एक बुद्धिमान संत का कथन है : "ज्ञान की भूख को दूर करना भोजन की भूख को दूर करने से अधिक कठिन है इसलिए व्यक्ति को भोजन पर अधिक ध्यान देना चाहिए" इस तर्क में कौन-सा तर्क दोष है?

- 1. प्रश्न का अनुरोध करना
- 2. असत्य द्वन्द्व
- 3. इग्नोरेशियो इलेन्ची (असंगत निष्कर्ष)
- 4. आवेग आग्रह

[Question ID = 567][Question Description = 127_0_GP16_SEP22_S2_Q27]

- 1. 1 [Option ID = 2265]
- 2. 2 [Option ID = 2266]
- 3. 3 [Option ID = 2267]
- 4. 4 [Option ID = 2268]

23)

"We should value the Moon more than the Sun because the Moon shines when it is dark whereas the Sun shines when there is light anyway." This statement commits the fallacy of:

- 1. Appeal to Emotion
- 2. Fallacy of False Cause
- 3. False Dilemma
- 4. Equivocation

"हमें चंद्रमा की अपेक्षा सूर्य को अधिक महत्व देना चाहिए क्योंकि चंद्रमा अंधेरा होने पर प्रकाशित होता है, जबकि सूर्य प्रकाश होने पर प्रकाशित होता है" इस कथन में निम्नलिखित तर्कदोष है :

1. आवेग के प्रति आग्रह
2. गलत कारण का तर्क दोष
3. असत्य द्वंद्व
4. समर्थकता

[Question ID = 568][Question Description = 128_0_GP16_SEP22_S2_Q28]

1. 1 [Option ID = 2269]
2. 2 [Option ID = 2270]
3. 3 [Option ID = 2271]
4. 4 [Option ID = 2272]

24)

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : According to classical Indian Logicians (Naiyāyikas), all fallacies are material fallacies.

Reason R : According to Nyāya, Syllogism is deductive-inductive and formal-material.

In light of the above statements, choose the **correct** answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

नीचे दो कथन दिए गए हैं : एक अभिकथन (Assertion A) के रूप में लिखित है तो दूसरा उसके कारण (Reason R) के रूप में;

अभिकथन A : क्लासिकी भारतीय तर्कशास्त्रियों (नैयायिक) के अनुसार सभी तर्क-दोष भौतिक तर्क दोष होते हैं।

कारण R : न्याय मत के अनुसार न्याय-वाक्य निगमात्मक - आगमात्मक और औपचारिक - भौतिक होता है।

उपर्युक्त कथनों के आलोक में निम्नांकित विकल्पों में से सही उत्तर का चयन कीजिए :

1. A और R दोनों सत्य हैं और R, A की सही व्याख्या है
2. A और R दोनों सत्य हैं, लेकिन R, A की सही व्याख्या नहीं है
3. A सत्य है, लेकिन R असत्य है
4. A असत्य है, लेकिन R सत्य है

[Question ID = 569][Question Description = 129_0_GP16_SEP22_S2_Q29]

1. 1 [Option ID = 2273]
2. 2 [Option ID = 2274]
3. 3 [Option ID = 2275]
4. 4 [Option ID = 2276]

25)

Which of the following statements are true regarding Nyāya (Classical Indian School of Logic) view of hetrābhāsa (fallacy)

- A. It means that middle term appears to be a reason but is not a valid reason.
- B. All fallacies are material fallacies.
- C. When an inference is based not on causation but on uniformity of co-existence, it leads to a fallacy.
- D. Fallacies occur when any of the five characteristics of a middle term are violated.

Choose the **correct** answer from the options given below:

- 1. A, B and C only
- 2. A, B and D only
- 3. B, C and D only
- 4. A, B, C and D

निम्नलिखित कौन-से कथन न्याय (क्लासिकी भारतीय तर्क मत) के हेत्वाभास संबंधी मत के सन्दर्भ में सत्य हैं?

- A. इसका अर्थ है कि मध्य पद तर्क प्रतीत होता है परंतु वैध तर्क नहीं होता
- B. सभी तर्क दोष, भौतिक तर्क दोष होते हैं
- C. जब कोई अनुमान कारण-कार्य संबंध पर आधारित न होकर सह-अस्तित्व की एकरूपता पर आधारित होता है तो इससे तर्कदोष उत्पन्न होता है
- D. तर्कदोष उस स्थिति में उत्पन्न होते हैं जब मध्यपद की पाँच विशेषताओं में किसी का भी उल्लंघन होता है

नीचे दिए गए विकल्पों में से सही उत्तर चुनें :

- 1. केवल A, B और C
- 2. केवल A, B और D
- 3. केवल B, C और D
- 4. A, B, C और D

[Question ID = 570][Question Description = 130_0_GP16_SEP22_S2_Q30]

- 1. 1 [Option ID = 2277]
- 2. 2 [Option ID = 2278]
- 3. 3 [Option ID = 2279]
- 4. 4 [Option ID = 2280]

26)

Which of the following is not an essential component required for video-conferencing system?

- 1. Video Camera
- 2. Display Device
- 3. Telephone
- 4. Microphone

निम्नलिखित में से कौनसा वीडियो कॉन्फरेंसिंग सिस्टम के लिए एक अत्यावश्यक घटक नहीं है?

1. वीडियो कैमरा
2. डिस्प्ले डिवाइस
3. टेलीफोन
4. माइक्रोफोन

[Question ID = 571][Question Description = 131_0_GP16_SEP22_S2_Q31]

1. 1 [Option ID = 2281]
2. 2 [Option ID = 2282]
3. 3 [Option ID = 2283]
4. 4 [Option ID = 2284]

27)

Which of the following is NOT correct regarding Digilocker, a key initiative under 'Digital India' programme of Government of India?

1. Indian citizens who sign up for a Digilocker account get a dedicated cloud storage space that is limited to their Aadhar number.
2. It aims to eliminate the use of physical documents and provide access to their digital documents anytime, anywhere and share it online.
3. Citizens can self-upload documents and digitally sign them using the e-sign facility.
4. The slogan of Digilocker is "My documents, Anytime, Anywhere."

निम्नलिखित में से कौनसा भारत सरकार के कार्यक्रम - 'डिजिटल इंडिया' के अंतर्गत एक प्रमुख पहल - डिजिलॉकर के संबंध में सही नहीं है?

1. डिजिलॉकर खाते के लिए हस्ताक्षर करने वाले भारतीय नागरिक समर्पित क्लाउड स्टोरेज स्पेस प्राप्त करते हैं, जो उनकी आधार संख्या से लिंक होती है।
2. इसका उद्देश्य भौतिक दस्तावेजों के उपयोग की समाप्ति है और उनके दस्तावेजों को किसी भी समय किसी भी जगह कहीं भी पहुंच प्रदान कराना तथा उसे ऑनलाइन साझा करना है।
3. नागरिक स्वयं अपलोड कर सकते हैं और ई-साइन सुविधा का उपयोग कर डिजिटल रूप से हस्ताक्षर कर सकते हैं।
4. डिजिलॉकर लोगों का स्लोगन है - "माई डाक्यूमेंट्स, एनीटाइम, एनीव्हेयर" (अर्थात मेरे दस्तावेज, किसी भी समय, कहीं भी)।

[Question ID = 572][Question Description = 132_0_GP16_SEP22_S2_Q32]

1. 1 [Option ID = 2285]
2. 2 [Option ID = 2286]
3. 3 [Option ID = 2287]
4. 4 [Option ID = 2288]

28)

Many computer users are worried about malware. Which of the following are two examples of malware?

A. Firewall

B. Worm

C. Router

D. Virus

Choose the **correct** answer from the options given below:

1. A and C only

2. A and B only

3. B and D only

4. C and D only

कम्प्यूटर के अनेक उपयोगकर्ता मालवेयर के बारे में चिन्तित हैं। निम्नलिखित में से कौनसे मालवेयर के दो उदाहरण हैं?

A. फ़ायरवॉल

B. वर्म

C. राउटर

D. वायरस

नीचे दिए गए विकल्पों में से सही उत्तर चुनें :

1. केवल A और C

2. केवल A और B

3. केवल B और D

4. केवल C और D

[Question ID = 573][Question Description = 133_0_GP16_SEP22_S2_Q33]

1. 1 [Option ID = 2289]

2. 2 [Option ID = 2290]

3. 3 [Option ID = 2291]

4. 4 [Option ID = 2292]

29)

Consider the following spreadsheet:

	A	B	C
1	4	3	
2	5	2	
3	7		
4	8		9
5	9		
6			

If the formula = \$A\$3 + B2 in cell C4 is copied to cell C5, then what is the value in cell C5?

1. 9
2. 8
3. 7
4. 17

निम्नलिखित स्प्रेडशीट पर विचार कीजिए :

	A	B	C
1	4	3	
2	5	2	
3	7		
4	8		9
5	9		
6			

यदि सेल (कक्षिका) सी4 में सूत्र = \$A\$3 + B2 को सेल सी5 में प्रतिकृत किया जाता है तो सेल सी5 में मान (वैल्यू) क्या होगा ?

1. 9
2. 8
3. 7
4. 17

[Question ID = 574][Question Description = 134_0_GP16_SEP22_S2_Q34]

1. 1 [Option ID = 2293]
2. 2 [Option ID = 2294]
3. 3 [Option ID = 2295]
4. 4 [Option ID = 2296]

30)

Which of the following are the principal components of the CPU of a computer system?

- A. ALU (Arithmetic-Logic Unit)
- B. CU (Control Unit)
- C. Processor Registers
- D. SSD (Solid-State Drive)
- E. VRAM (Video RAM)

Choose the **correct** answer from the options given below:

- 1. A, B and D only
- 2. A, B and C only
- 3. C, D and E only
- 4. B, C and D only

निम्नलिखित में से कौनसे एक कम्प्यूटर प्रणाली के प्रमुख घटक हैं ?

- A. ए.एल.यू. (अर्थमेटिक - लॉजिक यूनिट)
- B. सी.यू. (कंट्रोल यूनिट)
- C. प्रोसेसर रजिस्टर्स
- D. एस.एस.डी. (सोलिड-स्टेट ड्राइव)
- E. वी.आर.ए.एम. (वीडियो रैम)

नीचे दिए गए विकल्पों में से सही उत्तर चुनें :

- 1. केवल A, B और D
- 2. केवल A, B और C
- 3. केवल C, D और E
- 4. केवल B, C और D

[Question ID = 575][Question Description = 135_0_GP16_SEP22_S2_Q35]

- 1. 1 [Option ID = 2297]
- 2. 2 [Option ID = 2298]
- 3. 3 [Option ID = 2299]
- 4. 4 [Option ID = 2300]

31)

Which among the following pesticides would have the least chance of bioaccumulation in food chains?

- 1. Chlordane
- 2. Aldrin
- 3. Carbaryl
- 4. Endrin

खाद्य श्रृंखला में निम्नलिखित में से किस नाशक जीवनाशी के न्यूनतम जैव संचयन की संभावना होगी?

1. क्लोरडेन
2. एल्लिडिन
3. कार्बारिल
4. एल्लिडिन

[Question ID = 576][Question Description = 136_0_GP16_SEP22_S2_Q36]

1. 1 [Option ID = 2301]
2. 2 [Option ID = 2302]
3. 3 [Option ID = 2303]
4. 4 [Option ID = 2304]

32)

Which of the following is envisaged in the Sustainable Deveopment Goals?

1. By 2020, conserve at least 50% of coastal and marine areas.
2. By 2030, reduce by one-third of the per capita global food waste at the retail and consumer levels.
3. By 2030, double the global rate of improvement in energy efficiency.
4. By 2030, reduce by one-fifth the premature mortality from non-communicable diseases.

सतत विकास लक्ष्यों में निम्नलिखित में से किसकी परिकल्पना की गई है?

1. वर्ष 2020 तक, कम से कम 50% तटीय और समुद्री क्षेत्रों का संरक्षण
2. वर्ष 2030 तक, खुदरा और उपभोक्ता स्तरों पर प्रतिव्यक्ति वैश्विक खाद्य बर्बादी में एक तिहाई तक कमी लाना
3. वर्ष 2030 तक, ऊर्जा दक्षता में सुधार की वैश्विक दर को दोगुना करना
4. वर्ष 2030 तक, गैर-संक्रामक रोगों से समयपूर्व मृत्यु दर में पाँचवे हिस्से तक कमी लाना

[Question ID = 577][Question Description = 137_0_GP16_SEP22_S2_Q37]

1. 1 [Option ID = 2305]
2. 2 [Option ID = 2306]
3. 3 [Option ID = 2307]
4. 4 [Option ID = 2308]

33)

Which among the following hazards can occur due to anthropogenic causes?

- A. Cyclones
- B. Nuclear Disaster
- C. Floods
- D. Volcanoes
- E. Forest Fires

Choose the **correct** answer from the options given below:

1. A, B and D only
2. B, C and D only
3. B, D and E only
4. B, C and E only

निम्नलिखित कौन से खतरे मानवोत्पत्तिक कारणों से उत्पन्न हो सकते हैं ?

- A. चक्रवात
- B. नाभिकीय आपदा
- C. बाढ़
- D. ज्वालामुखी
- E. जंगल की आग

नीचे दिए गए विकल्पों में से सही उत्तर चुनें :

1. केवल A, B और D
2. केवल B, C और D
3. केवल B, D और E
4. केवल B, C और E

[Question ID = 578][Question Description = 138_0_GP16_SEP22_S2_Q38]

1. 1 [Option ID = 2309]
2. 2 [Option ID = 2310]
3. 3 [Option ID = 2311]
4. 4 [Option ID = 2312]

34)

Arrange the following water bodies in increasing order of the quantity of freshwater they hold:

- A. Ice and snow
- B. Freshwater lakes and reservoirs
- C. Groundwater
- D. Rivers and streams

Choose the **correct** answer from the options given below

1. D, B, C, A
2. B, C, D, A
3. B, D, A, C
4. D, B, A, C

ताजा पानी की मात्रा की धारणीयता के बढ़ते क्रम में निम्नलिखित जल निकायों को व्यवस्थित करें -

- A. बर्फ (आइस) और हिम (स्रो)
- B. ताजा पानी की झीले और जलसंग्रहण क्षेत्र
- C. भूमिगत जल
- D. नदियाँ और जल-धाराएँ

नीचे दिए गए विकल्पों में से सही उत्तर चुनें :

- 1. D, B, C, A
- 2. B, C, D, A
- 3. B, D, A, C
- 4. D, B, A, C

[Question ID = 579][Question Description = 139_0_GP16_SEP22_S2_Q39]

- 1. 1 [Option ID = 2313]
- 2. 2 [Option ID = 2314]
- 3. 3 [Option ID = 2315]
- 4. 4 [Option ID = 2316]

35)

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A: Most cyclones cause widespread damage in coastal areas.

Reason R: Energy of most cyclones increases after landfall.

In light of the above statements, choose the **most appropriate** answer from the options given below

- 1. Both **A** and **R** are correct and **R** is the correct explanation of **A**
- 2. Both **A** and **R** are correct but **R** is NOT the correct explanation of **A**
- 3. **A** is correct but **R** is not correct
- 4. **A** is not correct but **R** is correct

नीचे दो कथन दिए गए हैं : एक अभिकथन (Assertion A) के रूप में लिखित है तो दूसरा उसके कारण (Reason R) के रूप में;

अभिकथन A : अधिकतर चक्रवातों से तटवर्ती क्षेत्रों में भारी पैमाने पर नुकसान होता है।

कारण R : स्थलावतरण के बाद अधिकतर चक्रवातों की ऊर्जा में वृद्धि होती है।

उपर्युक्त कथनों के आलोक में निम्नांकित विकल्पों में से सही उत्तर का चयन कीजिए :

- 1. A और R दोनों सही हैं और R, A की सही व्याख्या है।
- 2. A और R दोनों सही हैं परन्तु R, A की सही व्याख्या नहीं है।
- 3. A सही है, लेकिन R सही नहीं है।
- 4. A सही नहीं है, लेकिन R सही है।

[Question ID = 580][Question Description = 140_0_GP16_SEP22_S2_Q40]

- 1. 1 [Option ID = 2317]
- 2. 2 [Option ID = 2318]
- 3. 3 [Option ID = 2319]
- 4. 4 [Option ID = 2320]

36)

Some of the most notable universities that evolved during ancient period in India were situated at:

- A. Takshashila
- B. Vikramshila
- C. Jagaddala
- D. Odantapuri
- E. Nalanda

Choose the **correct** answer from the options given below:

- 1. A, B, C, D and E
- 2. A, B and E only
- 3. A, B, C and E only
- 4. A, B, D and E only

भारत में प्राचीन काल में उद्विकास करने वाले कुछ सर्वाधिक उल्लेखनीय विश्वविद्यालय कहां स्थित थे?

- A. तक्षशिला
- B. विक्रमशिला
- C. जगदल्ला
- D. उदांतपुरी
- E. नालंदा

नीचे दिए गए विकल्पों में से सही उत्तर चुनें :

- 1. A, B, C, D और E
- 2. केवल A, B और E
- 3. केवल A, B, C और E
- 4. केवल A, B, D और E

[Question ID = 581][Question Description = 141_0_GP16_SEP22_S2_Q41]

- 1. 1 [Option ID = 2321]
- 2. 2 [Option ID = 2322]
- 3. 3 [Option ID = 2323]
- 4. 4 [Option ID = 2324]

37)

In pursuance of the National Council of Teacher Education Act, 1993, NCTE was established in the year:

- 1. 1995
- 2. 1993
- 3. 1994
- 4. 1996

राष्ट्रीय अध्यापक शिक्षा परिषद अधिनियम, 1993 के अनुरूप एन.सी.टी.ई. की किस वर्ष में स्थापना हुई थी?

1. 1995
2. 1993
3. 1994
4. 1996

[Question ID = 582][Question Description = 142_0_GP16_SEP22_S2_Q42]

1. 1 [Option ID = 2325]
2. 2 [Option ID = 2326]
3. 3 [Option ID = 2327]
4. 4 [Option ID = 2328]

38)

SWAYAM tries to take the best teaching-learning resources to all students through

1. Seminars
2. Video lectures
3. Classroom teaching
4. Conferences

स्वयम (SWAYAM) निम्नांकित में से किस माध्यम से सर्वोत्कृष्ट शिक्षण-अधिगम संसाधनों को सभी विद्यार्थियों तक ले जाने का प्रयत्न करता है?

1. संगोष्ठी
2. दृश्य व्याख्यान
3. कक्षा में शिक्षण
4. सम्मेलन

[Question ID = 583][Question Description = 143_0_GP16_SEP22_S2_Q43]

1. 1 [Option ID = 2329]
2. 2 [Option ID = 2330]
3. 3 [Option ID = 2331]
4. 4 [Option ID = 2332]

39)

Following are the characteristics of Non-Conventional learning:

- A. It is teacher oriented.
- B. It is for improvement of quality.
- C. It is cost effective.
- D. It is linked to employment.
- E. It is on campus.

Choose the **correct** answer from the options given below:

1. A, B and C only
2. B, C and D only
3. A, C and D only
4. C, D and E only

गैर-परंपरागत अधिगम के अभिलक्षण हैं :

- A. यह शिक्षक उन्मुख है।
- B. इसका उद्देश्य गुणवत्ता में सुधार लाता है
- C. यह मूल्य-प्रभावी है
- D. यह रोजगार से सम्बन्धित है
- E. यह कैम्पस पर होती है।

नीचे दिए गए विकल्पों में से सही उत्तर चुनें :

- 1. केवल A, B और C
- 2. केवल B, C और D
- 3. केवल A, C और D
- 4. केवल C, D और E

[Question ID = 584][Question Description = 144_0_GP16_SEP22_S2_Q44]

- 1. 1 [Option ID = 2333]
- 2. 2 [Option ID = 2334]
- 3. 3 [Option ID = 2335]
- 4. 4 [Option ID = 2336]

40)

Given below are two statements

Statement I: An ethical framework of sustainable development provides normative guidance regarding our relationship with environment.

Statement II: Anthropocentric model is misleading as evident from its environmental consequences.

In light of the above statements, choose the **correct** answer from the options given below

- 1. Both Statement I and Statement II are true
- 2. Both Statement I and Statement II are false
- 3. Statement I is true but Statement II is false
- 4. Statement I is false but Statement II is true

नीचे दो कथन दिए गए हैं :

कथन - I : सतत विकास की नैतिक रूपरेखा हमारे पर्यावरण के साथ संबंध के बारे में मानकीय मार्गदर्शन प्रदान करती है।

कथन - II : मानव-केन्द्रित निदर्श भ्रामक है, जैसा कि उसके पर्यावरणीय परिणामों से सुस्पष्ट है।

उपर्युक्त कथनों के आलोक में निम्नलिखित विकल्पों में से सही उत्तर चुनें :

- 1. कथन I और II दोनों सत्य हैं।
- 2. कथन I और II दोनों असत्य हैं।
- 3. कथन I सत्य है, लेकिन कथन II असत्य है।
- 4. कथन I असत्य है, लेकिन कथन II सत्य है।

[Question ID = 585][Question Description = 145_0_GP16_SEP22_S2_Q45]

- 1. 1 [Option ID = 2337]

2. 2 [Option ID = 2338]
3. 3 [Option ID = 2339]
4. 4 [Option ID = 2340]

Topic:- 13_GP_30SEPT22_SH1_S2_C

1)

Read the given passage and answer the questions that follow

Marie Curie was a Polish-born physicist and chemist and one of the most famous scientists of her time. Together with her husband, Pierre, she discovered radium, an element widely used for treating cancer, and studied uranium and other radioactive substances. Pierre and Marie's amicable collaboration later helped to unlock the secrets of the atom. Together with her husband Pierre, she was awarded the Noble Prize for Physics in 1903.

Marie was born in Warsaw, Poland on 7 November 1867, the daughter of a Physics teacher. At an early age, she displayed a brilliant mind and a blithe personality. Her great exuberance for learning prompted her to continue with her studies after high school. She became disgruntled, however, when she learned that the university in Warsaw was closed to women. Determined to receive a higher education, she defiantly left Poland and in 1891 entered the Sorbonne, a French University, where she earned her master's degree and doctorate in Physics.

Marie was fortunate to have studied at the Sorbonne with some of the greatest scientists of her day, one of whom was Pierre Curie. Marie and Pierre were married in 1895 and spent many productive years working together in the physics laboratory. A short time after they discovered radium, Pierre was killed by a horse-drawn wagon in 1906. Marie was stunned by the horrible misfortune and endured heartbreaking anguish. Despondently, she recalled their close relationship and the joy that they had shared in scientific research. The fact that that she had two young daughters to raise by herself greatly increased her distress.

Curie's feeling of desolation finally began to fade when she was asked to succeed her husband as a Physics professor at the Sorbonne. She was the first woman to be given a professorship at the world-famous university. She received her second Noble Prize in Chemist for isolating radium, in 1911. Curie eldest daughter, Irene, was herself a scientist and winner of the Noble Prize for Chemistry.

Although Marie Curie eventually suffered a fatal illness from her long term exposure to radium, she never became disillusioned about her work. Regardless of the consequences, she had dedicated herself to science and to revealing the mysteries of the physical world.

At what age did Marie Curie receive her first Nobel prize?

1. 36 years
2. 46 years
3. 56 years
4. 44 years

निम्नलिखित गद्यांश को पढ़कर दिए गए प्रश्नों के उत्तर दीजिए :

मेरी क्यूरी पोलोड में जन्मी एक भौतिकविद् और रसायनविद् थीं और अपने समय की सर्वाधिक प्रसिद्ध वैज्ञानिक थीं। अपने पति पियरे के साथ मिलकर उन्होंने रेडियम का आविष्कार किया, जिसका प्रयोग व्यापक स्तर पर कैंसर के उपचार के लिए किया जाता है और उसने यूरेनियम और अन्य रेडिओधर्मी तत्वों का अध्ययन किया। पियरे और मेरी के सौहार्दपूर्ण गठजोड़ ने बाद में परमाणु (एटम) की खोज में सहयोग किया। अपने पति पियरे के साथ, इन्हें वर्ष 1903 में भौतिकी में नोबल पुरस्कार प्रदान किया गया।

मेरी का जन्म वॉरसा, पोलोड में दिनांक 7 नवंबर 1867 को हुआ था, जो एक भौतिकी अध्यापक की पुत्री थीं। अपनी आरंभिक आयु में उन्होंने उत्कृष्ट मस्तिष्क और तीव्र व्यक्तित्व का प्रदर्शन किया। सीखने के प्रति उनकी विशिष्ट इच्छा ने उन्हें हाइस्कूल के बाद आगे अध्ययन जारी रखने के लिए प्रेरित किया। यद्यपि जब उन्हें पता चला कि वॉरसा में विश्वविद्यालय महिलाओं के लिए बंद हो गई है तो उन्हें अत्यंत निराशा हुई।

उच्चतर शिक्षा प्राप्त करने के लिए दृढ़संकल्पित होने के कारण उन्होंने पोलोड को छोड़ दिया और वर्ष 1891 में फ्रेंच विश्वविद्यालय सोरबोन में प्रवेश लिया, जहां उन्होंने अपनी मास्टर्स की डिग्री प्राप्त की और भौतिकी में डॉक्टरेट प्राप्त की।

मेरी बहुत खुशकिस्मत थी कि उसे सोरबोन में, उस समय के कुछ महान वैज्ञानिकों के साथ कार्य करने का मौका मिला, जिनमें से एक पियरे क्यूरी थे। मेरी और पियरे का विवाह 1895 में हुआ था और उन्होंने भौतिकी प्रयोगशाला में मिलकर अनेक सृजनात्मक वर्षों के लिए कार्य किया। रेडियम के आविष्कार के कुछ समय पश्चात ही, वर्ष 1909 में एक घोड़ा-गाड़ी द्वारा उनकी मृत्यु हो गई। मेरी इस दुखद घटना के कारण स्तब्ध हो गईं और हृदयविदारक शोक में डूब गईं। इस उदासी में, उन्होंने अपने निकट सम्बन्ध और वैज्ञानिक अनुसंधानों में साझा किये गये हर्ष के समय को याद किया। अपनी दो बेटियों को बड़ा करने के उत्तरदायित्व ने उसके तनाव को अत्यधिक बढ़ा दिया था।

अन्ततः क्यूरी की विषाद की स्थिति उस समय धूमिल हो गई जब, उन्हें सोरबोन में भौतिकी के प्रोफेसर के रूप में अपने पति का स्थान लेने को कहा गया। वह पहली महिला थीं, जिन्हें विश्व प्रसिद्ध विश्वविद्यालय में प्रोफेसरशिप प्रदान की गई थी। उन्होंने वर्ष 1911 में रेडियम पार्थक्य के लिए रसायन शास्त्र में दूसरा नोबल पुरस्कार प्राप्त किया। क्यूरी की सबसे बड़ी बेटी आइरीन खुद एक वैज्ञानिक थीं और रसायन शास्त्र में नोबल पुरस्कार विजेता थीं।

हालांकि, अन्ततः मेरी क्यूरी को रेडियम के दीर्घकालिक उद्भासन के कारण घातक रोग हो गया, लेकिन उनका अपने कार्य के प्रति कभी मोहभंग नहीं हुआ। परिणामों की परवाह किये बिना उन्होंने स्वयं को विज्ञान और भौतिक संसार के रहस्यों को उजागर करने के प्रति समर्पित किया था।

प्रथम नोबल पुरस्कार प्राप्त करते समय मेरी क्यूरी की आयु क्या थी?

1. 36 वर्ष
2. 46 वर्ष
3. 56 वर्ष
4. 44 वर्ष

[Question ID = 586][Question Description = 146_0_GP16_SEP22_S2_Q46]

1. 1 [Option ID = 2341]
2. 2 [Option ID = 2342]
3. 3 [Option ID = 2343]
4. 4 [Option ID = 2344]

2)

Read the given passage and answer the questions that follow

Marie Curie was a Polish-born physicist and chemist and one of the most famous scientists of her time. Together with her husband, Pierre, she discovered radium, an element widely used for treating cancer, and studied uranium and other radioactive substances. Pierre and Marie's amicable collaboration later helped to unlock the secrets of the atom. Together with her husband Pierre, she was awarded the Noble Prize for Physics in 1903.

Marie was born in Warsaw, Poland on 7 November 1867, the daughter of a Physics teacher. At an early age, she displayed a brilliant mind and a blithe personality. Her great exuberance for learning prompted her to continue with her studies after high school. She became disgruntled, however, when she learned that the university in Warsaw was closed to women. Determined to receive a higher education, she defiantly left Poland and in 1891 entered the Sorbonne, a French University, where she earned her master's degree and doctorate in Physics.

Marie was fortunate to have studied at the Sorbonne with some of the greatest scientists of her day, one of whom was Pierre Curie. Marie and Pierre were married in 1895 and spent many productive years working together in the physics laboratory. A short time after they discovered radium, Pierre was killed by a horse-drawn wagon in 1906. Marie was stunned by the horrible misfortune and endured heartbreaking anguish. Despondently, she recalled their close relationship and the joy that they had shared in scientific research. The fact that that she had two young daughters to raise by herself greatly increased her distress.

Curie's feeling of desolation finally began to fade when she was asked to succeed her husband as a Physics professor at the Sorbonne. She was the first woman to be given a professorship at the world-famous university. She received her second Noble Prize in Chemist for isolating radium, in 1911. Curie eldest daughter, Irene, was herself a scientist and winner of the Noble Prize for Chemistry.

Although Marie Curie eventually suffered a fatal illness from her long term exposure to radium, she never became disillusioned about her work. Regardless of the consequences, she had dedicated herself to science and to revealing the mysteries of the physical world.

After how many years of her marriage did Marie Curie lose her husband?

1. 11 years
2. 39 years
3. 28 years
4. 6 years

निम्नलिखित गद्यांश को पढ़कर दिए गए प्रश्नों के उत्तर दीजिए :

मेरी क्यूरी पोलोड में जन्मी एक भौतिकविद् और रसायनविद् थीं और अपने समय की सर्वाधिक प्रसिद्ध वैज्ञानिक थीं। अपने पति पियरे के साथ मिलकर उन्होंने रेडियम का आविष्कार किया, जिसका प्रयोग व्यापक स्तर पर कैंसर के उपचार के लिए किया जाता है और उसने यूरेनियम और अन्य रेडिओधर्मी तत्वों का अध्ययन किया। पियरे और मेरी के सौहार्दपूर्ण गठजोड़ ने बाद में परमाणु (एटम) की खोज में सहयोग किया। अपने पति पियरे के साथ, इन्हें वर्ष 1903 में भौतिकी में नोबल पुरस्कार प्रदान किया गया।

मेरी का जन्म वॉरसा, पोलोड में दिनांक 7 नवंबर 1867 को हुआ था, जो एक भौतिकी अध्यापक की पुत्री थीं। अपनी आरंभिक आयु में उन्होंने उत्कृष्ट मस्तिष्क और तीव्र व्यक्तित्व का प्रदर्शन किया। सीखने के प्रति उनकी विशिष्ट इच्छा ने उन्हें हाइस्कूल के बाद आगे अध्ययन जारी रखने के लिए प्रेरित किया। यद्यपि जब उन्हें पता चला कि वॉरसा में विश्वविद्यालय महिलाओं के लिए बंद हो गई है तो उन्हें अत्यंत निराशा हुई।

उच्चतर शिक्षा प्राप्त करने के लिए दृढ़संकल्पित होने के कारण उन्होंने पोलोड को छोड़ दिया और वर्ष 1891 में फ्रेंच विश्वविद्यालय सोरबोन में प्रवेश लिया, जहां उन्होंने अपनी मास्टर्स की डिग्री प्राप्त की और भौतिकी में डॉक्टरेट प्राप्त की।

मेरी बहुत खुशकिस्मत थी कि उसे सोरबोन में, उस समय के कुछ महान वैज्ञानिकों के साथ कार्य करने का मौका मिला, जिनमें से एक पियरे क्यूरी थे। मेरी और पियरे का विवाह 1895 में हुआ था और उन्होंने भौतिकी प्रयोगशाला में मिलकर अनेक सृजनात्मक वर्षों के लिए कार्य किया। रेडियम के आविष्कार के कुछ समय पश्चात ही, वर्ष 1909 में एक घोड़ा-गाड़ी द्वारा उनकी मृत्यु हो गई। मेरी इस दुखद घटना के कारण स्तब्ध हो गईं और हृदयविदारक शोक में डूब गईं। इस उदासी में, उन्होंने अपने निकट सम्बन्ध और वैज्ञानिक अनुसंधानों में साझा किये गये हर्ष के समय को याद किया। अपनी दो बेटियों को बड़ा करने के उत्तरदायित्व ने उसके तनाव को अत्यधिक बढ़ा दिया था।

अन्ततः क्यूरी की विषाद की स्थिति उस समय धूमिल हो गई जब, उन्हें सोरबोन में भौतिकी के प्रोफेसर के रूप में अपने पति का स्थान लेने को कहा गया। वह पहली महिला थीं, जिन्हें विश्व प्रसिद्ध विश्वविद्यालय में प्रोफेसरशिप प्रदान की गई थी। उन्होंने वर्ष 1911 में रेडियम पार्थक्य के लिए रसायन शास्त्र में दूसरा नोबल पुरस्कार प्राप्त किया। क्यूरी की सबसे बड़ी बेटी आइरीन खुद एक वैज्ञानिक थीं और रसायन शास्त्र में नोबल पुरस्कार विजेता थीं।

हालांकि, अन्ततः मैरी क्यूरी को रेडियम के दीर्घकालिक उद्घासन के कारण घातक रोग हो गया, लेकिन उनका अपने कार्य के प्रति कभी मोहभंग नहीं हुआ। परिणामों की परवाह किये बिना उन्होंने स्वयं को विज्ञान और भौतिक संसार के रहस्यों को उजागर करने के प्रति समर्पित किया था।

अपने विवाह के कितने वर्षों के पश्चात्, मैरी क्यूरी के पति की मृत्यु हुई थी?

1. 11 वर्ष
2. 39 वर्ष
3. 28 वर्ष
4. 6 वर्ष

[Question ID = 587][Question Description = 147_0_GP16_SEP22_S2_Q47]

1. 1 [Option ID = 2345]
2. 2 [Option ID = 2346]
3. 3 [Option ID = 2347]
4. 4 [Option ID = 2348]

3)

Read the given passage and answer the questions that follow

Marie Curie was a Polish-born physicist and chemist and one of the most famous scientists of her time. Together with her husband, Pierre, she discovered radium, an element widely used for treating cancer, and studied uranium and other radioactive substances. Pierre and Marie's amicable collaboration later helped to unlock the secrets of the atom. Together with her husband Pierre, she was awarded the Noble Prize for Physics in 1903.

Marie was born in Warsaw, Poland on 7 November 1867, the daughter of a Physics teacher. At an early age, she displayed a brilliant mind and a blithe personality. Her great exuberance for learning prompted her to continue with her studies after high school. She became disgruntled, however, when she learned that the university in Warsaw was closed to women. Determined to receive a higher education, she defiantly left Poland and in 1891 entered the Sorbonne, a French University, where she earned her master's degree and doctorate in Physics.

Marie was fortunate to have studied at the Sorbonne with some of the greatest scientists of her day, one of whom was Pierre Curie. Marie and Pierre were married in 1895 and spent many productive years working together in the physics laboratory. A short time after they discovered radium, Pierre was killed by a horse-drawn wagon in 1906. Marie was stunned by the horrible misfortune and endured heartbreaking anguish. Despondently, she recalled their close relationship and the joy that they had shared in scientific research. The fact that that she had two young daughters to raise by herself greatly increased her distress.

Curie's feeling of desolation finally began to fade when she was asked to succeed her husband as a Physics professor at the Sorbonne. She was the first woman to be given a professorship at the world-famous university. She received her second Noble Prize in Chemist for isolating radium, in 1911. Curie eldest daughter, Irene, was herself a scientist and winner of the Noble Prize for Chemistry.

Although Marie Curie eventually suffered a fatal illness from her long term exposure to radium, she never became disillusioned about her work. Regardless of the consequences, she had dedicated herself to science and to revealing the mysteries of the physical world.

What made Marie Curie study at Sorbonne University?

1. University in Warsaw did not allow her admission.
2. She wanted to work with Pierre Curie.
3. She wanted to work on Radium.
4. She did not enjoy learning at an early age in Warsaw.

निम्नलिखित गद्यांश को पढ़कर दिए गए प्रश्नों के उत्तर दीजिए :

मेरी क्यूरी पोलैड में जन्मी एक भौतिकविद् और रसायनविद् थीं और अपने समय की सर्वाधिक प्रसिद्ध वैज्ञानिक थीं। अपने पति पियरे के साथ मिलकर उन्होंने रेडियम का आविष्कार किया, जिसका प्रयोग व्यापक स्तर पर कैंसर के उपचार के लिए किया जाता है और उसने यूरेनियम और अन्य रेडिओधर्मी तत्वों का अध्ययन किया। पियरे और मेरी के सौहार्दपूर्ण गठजोड़ ने बाद में परमाणु (एटम) की खोज में सहयोग किया। अपने पति पियरे के साथ, इन्हें वर्ष 1903 में भौतिकी में नोबल पुरस्कार प्रदान किया गया।

मेरी का जन्म वॉरसा, पोलैड में दिनांक 7 नवंबर 1867 को हुआ था, जो एक भौतिकी अध्यापक की पुत्री थीं। अपनी आरंभिक आयु में उन्होंने उत्कृष्ट मस्तिष्क और तीव्र व्यक्तित्व का प्रदर्शन किया। सीखने के प्रति उनकी विशिष्ट इच्छा ने उन्हें हाइस्कूल के बाद आगे अध्ययन जारी रखने के लिए प्रेरित किया। यद्यपि जब उन्हें पता चला कि वॉरसा में विश्वविद्यालय महिलाओं के लिए बंद हो गई है तो उन्हें अत्यंत निराशा हुई।

उच्चतर शिक्षा प्राप्त करने के लिए दृढ़संकल्पित होने के कारण उन्होंने पोलैड को छोड़ दिया और वर्ष 1891 में फ्रेंच विश्वविद्यालय सोरबोन में प्रवेश लिया, जहाँ उन्होंने अपनी मास्टर्स की डिग्री प्राप्त की और भौतिकी में डॉक्टरेट प्राप्त की।

मेरी बहुत खुशकिस्मत थी कि उसे सोरबोन में, उस समय के कुछ महान वैज्ञानिकों के साथ कार्य करने का मौका मिला, जिनमें से एक पियरे क्यूरी थे। मेरी और पियरे का विवाह 1895 में हुआ था और उन्होंने भौतिकी प्रयोगशाला में मिलकर अनेक सृजनात्मक वर्षों के लिए कार्य किया। रेडियम के आविष्कार के कुछ समय पश्चात ही, वर्ष 1909 में एक घोड़ा-गाड़ी द्वारा उनकी मृत्यु हो गई। मेरी इस दुखद घटना के कारण स्तब्ध हो गईं और हृदयविदारक शोक में डूब गईं। इस उदासी में, उन्होंने अपने निकट सम्बन्ध और वैज्ञानिक अनुसंधानों में साझा किये गये हर्ष के समय को याद किया। अपनी दो बेटियों को बड़ा करने के उत्तरदायित्व ने उसके तनाव को अत्यधिक बढ़ा दिया था।

अन्ततः क्यूरी की विषाद की स्थिति उस समय धूमिल हो गई जब, उन्हें सोरबोन में भौतिकी के प्रोफेसर के रूप में अपने पति का स्थान लेने को कहा गया। वह पहली महिला थीं, जिन्हें विश्व प्रसिद्ध विश्वविद्यालय में प्रोफेसरशिप प्रदान की गई थी। उन्होंने वर्ष 1911 में रेडियम पार्थक्य के लिए रसायन शास्त्र में दूसरा नोबल पुरस्कार प्राप्त किया। क्यूरी की सबसे बड़ी बेटी आइरीन खुद एक वैज्ञानिक थीं और रसायन शास्त्र में नोबल पुरस्कार विजेता थीं।

हालांकि, अन्ततः मैरी क्यूरी को रेडियम के दीर्घकालिक उद्दासन के कारण घातक रोग हो गया, लेकिन उनका अपने कार्य के प्रति कभी मोहभंग नहीं हुआ। परिणामों की परवाह किये बिना उन्होंने स्वयं को विज्ञान और भौतिक संसार के रहस्यों को उजागर करने के प्रति समर्पित किया था।

किस कारण मेरी क्यूरी को सोरबोन विश्वविद्यालय में अध्ययन करना पड़ा?

1. वॉरसा में विश्वविद्यालय ने उन्हें प्रवेश नहीं दिया।
2. वह पियरे क्यूरी के साथ कार्य करना चाहती थीं।
3. वह रेडियम पर कार्य करना चाहती थीं।
4. अपनी आरम्भिक आयु में वॉरसा में अध्ययन करके वह खुश नहीं थीं।

[Question ID = 588][Question Description = 148_0_GP16_SEP22_S2_Q48]

1. 1 [Option ID = 2349]
2. 2 [Option ID = 2350]
3. 3 [Option ID = 2351]
4. 4 [Option ID = 2352]

4)

Read the given passage and answer the questions that follow

Marie Curie was a Polish-born physicist and chemist and one of the most famous scientists of her time. Together with her husband, Pierre, she discovered radium, an element widely used for treating cancer, and studied uranium and other radioactive substances. Pierre and Marie's amicable collaboration later helped to unlock the secrets of the atom. Together with her husband Pierre, she was awarded the Noble Prize for Physics in 1903.

Marie was born in Warsaw, Poland on 7 November 1867, the daughter of a Physics teacher. At an early age, she displayed a brilliant mind and a blithe personality. Her great exuberance for learning prompted her to continue with her studies after high school. She became disgruntled, however, when she learned that the university in Warsaw was closed to women. Determined to receive a higher education, she defiantly left Poland and in 1891 entered the Sorbonne, a French University, where she earned her master's degree and doctorate in Physics.

Marie was fortunate to have studied at the Sorbonne with some of the greatest scientists of her day, one of whom was Pierre Curie. Marie and Pierre were married in 1895 and spent many productive years working together in the physics laboratory. A short time after they discovered radium, Pierre was killed by a horse-drawn wagon in 1906. Marie was stunned by the horrible misfortune and endured heartbreaking anguish. Despondently, she recalled their close relationship and the joy that they had shared in scientific research. The fact that that she had two young daughters to raise by herself greatly increased her distress.

Curie's feeling of desolation finally began to fade when she was asked to succeed her husband as a Physics professor at the Sorbonne. She was the first woman to be given a professorship at the world-famous university. She received her second Noble Prize in Chemist for isolating radium, in 1911. Curie eldest daughter, Irene, was herself a scientist and winner of the Noble Prize for Chemistry.

Although Marie Curie eventually suffered a fatal illness from her long term exposure to radium, she never became disillusioned about her work. Regardless of the consequences, she had dedicated herself to science and to revealing the mysteries of the physical world.

Which of the following elements is widely used in treatment of Cancer?

1. Uranium
2. Radium
3. Thorium
4. Plutonium

निम्नलिखित गद्यांश को पढ़कर दिए गए प्रश्नों के उत्तर दीजिए :

मेरी क्यूरी पोलोड में जन्मी एक भौतिकविद् और रसायनविद् थीं और अपने समय की सर्वाधिक प्रसिद्ध वैज्ञानिक थीं। अपने पति पियरे के साथ मिलकर उन्होंने रेडियम का आविष्कार किया, जिसका प्रयोग व्यापक स्तर पर कैंसर के उपचार के लिए किया जाता है और उसने यूरेनियम और अन्य रेडिओधर्मी तत्वों का अध्ययन किया। पियरे और मेरी के सौहार्दपूर्ण गठजोड़ ने बाद में परमाणु (एटम) की खोज में सहयोग किया। अपने पति पियरे के साथ, इन्हें वर्ष 1903 में भौतिकी में नोबल पुरस्कार प्रदान किया गया।

मेरी का जन्म वॉरसा, पोलोड में दिनांक 7 नवंबर 1867 को हुआ था, जो एक भौतिकी अध्यापक की पुत्री थीं। अपनी आरंभिक आयु में उन्होंने उत्कृष्ट मस्तिष्क और तीव्र व्यक्तित्व का प्रदर्शन किया। सीखने के प्रति उनकी विशिष्ट इच्छा ने उन्हें हाइस्कूल के बाद आगे अध्ययन जारी रखने के लिए प्रेरित किया। यद्यपि जब उन्हें पता चला कि वॉरसा में विश्वविद्यालय महिलाओं के लिए बंद हो गई है तो उन्हें अत्यंत निराशा हुई।

उच्चतर शिक्षा प्राप्त करने के लिए दृढ़संकल्पित होने के कारण उन्होंने पोलोड को छोड़ दिया और वर्ष 1891 में फ्रेंच विश्वविद्यालय सोरबोन में प्रवेश लिया, जहां उन्होंने अपनी मास्टर्स की डिग्री प्राप्त की और भौतिकी में डॉक्टरेट प्राप्त की।

मेरी बहुत खुशकिस्मत थी कि उसे सोरबोन में, उस समय के कुछ महान वैज्ञानिकों के साथ कार्य करने का मौका मिला, जिनमें से एक पियरे क्यूरी थे। मेरी और पियरे का विवाह 1895 में हुआ था और उन्होंने भौतिकी प्रयोगशाला में मिलकर अनेक सृजनात्मक वर्षों के लिए कार्य किया। रेडियम के आविष्कार के कुछ समय पश्चात ही, वर्ष 1909 में एक घोड़ा-गाड़ी द्वारा उनकी मृत्यु हो गई। मेरी इस दुखद घटना के कारण स्तब्ध हो गईं और हृदयविदारक शोक में डूब गईं। इस उदासी में, उन्होंने अपने निकट सम्बन्ध और वैज्ञानिक अनुसंधानों में साझा किये गये हर्ष के समय को याद किया। अपनी दो बेटियों को बड़ा करने के उत्तरदायित्व ने उसके तनाव को अत्यधिक बढ़ा दिया था।

अन्ततः क्यूरी की विषाद की स्थिति उस समय धूमिल हो गई जब, उन्हें सोरबोन में भौतिकी के प्रोफेसर के रूप में अपने पति का स्थान लेने को कहा गया। वह पहली महिला थीं, जिन्हें विश्व प्रसिद्ध विश्वविद्यालय में प्रोफेसरशिप प्रदान की गई थी। उन्होंने वर्ष 1911 में रेडियम पार्थक्य के लिए रसायन शास्त्र में दूसरा नोबल पुरस्कार प्राप्त किया। क्यूरी की सबसे बड़ी बेटी आइरीन खुद एक वैज्ञानिक थीं और रसायन शास्त्र में नोबल पुरस्कार विजेता थीं।

हालांकि, अन्ततः मैरी क्यूरी को रेडियम के दीर्घकालिक उद्घासन के कारण घातक रोग हो गया, लेकिन उनका अपने कार्य के प्रति कभी मोहभंग नहीं हुआ। परिणामों की परवाह किये बिना उन्होंने स्वयं को विज्ञान और भौतिक संसार के रहस्यों को उजागर करने के प्रति समर्पित किया था।

कैंसर के उपचार के लिए व्यापक स्तर पर निम्नलिखित तत्वों में से किसका प्रयोग किया जाता है?

1. यूरेनियम
2. रेडियम
3. थोरियम
4. प्लूटोनियम

[Question ID = 589][Question Description = 149_0_GP16_SEP22_S2_Q49]

1. 1 [Option ID = 2353]
2. 2 [Option ID = 2354]
3. 3 [Option ID = 2355]
4. 4 [Option ID = 2356]

5)

Read the given passage and answer the questions that follow

Marie Curie was a Polish-born physicist and chemist and one of the most famous scientists of her time. Together with her husband, Pierre, she discovered radium, an element widely used for treating cancer, and studied uranium and other radioactive substances. Pierre and Marie's amicable collaboration later helped to unlock the secrets of the atom. Together with her husband Pierre, she was awarded the Noble Prize for Physics in 1903.

Marie was born in Warsaw, Poland on 7 November 1867, the daughter of a Physics teacher. At an early age, she displayed a brilliant mind and a blithe personality. Her great exuberance for learning prompted her to continue with her studies after high school. She became disgruntled, however, when she learned that the university in Warsaw was closed to women. Determined to receive a higher education, she defiantly left Poland and in 1891 entered the Sorbonne, a French University, where she earned her master's degree and doctorate in Physics.

Marie was fortunate to have studied at the Sorbonne with some of the greatest scientists of her day, one of whom was Pierre Curie. Marie and Pierre were married in 1895 and spent many productive years working together in the physics laboratory. A short time after they discovered radium, Pierre was killed by a horse-drawn wagon in 1906. Marie was stunned by the horrible misfortune and endured heartbreaking anguish. Despondently, she recalled their close relationship and the joy that they had shared in scientific research. The fact that that she had two young daughters to raise by herself greatly increased her distress.

Curie's feeling of desolation finally began to fade when she was asked to succeed her husband as a Physics professor at the Sorbonne. She was the first woman to be given a professorship at the world-famous university. She received her second Noble Prize in Chemist for isolating radium, in 1911. Curie eldest daughter, Irene, was herself a scientist and winner of the Noble Prize for Chemistry.

Although Marie Curie eventually suffered a fatal illness from her long term exposure to radium, she never became disillusioned about her work. Regardless of the consequences, she had dedicated herself to science and to revealing the mysteries of the physical world.

The passage shows Marie Curie to be a great scientist who

1. was amiable in nature.
2. had indomitable spirit and dedication to science.
3. was emotionally vulnerable.
4. became disillusioned after her husband's death.

निम्नलिखित गद्यांश को पढ़कर दिए गए प्रश्नों के उत्तर दीजिए :

मेरी क्यूरी पोलैड में जन्मी एक भौतिकविद् और रसायनविद् थीं और अपने समय की सर्वाधिक प्रसिद्ध वैज्ञानिक थीं। अपने पति पियरे के साथ मिलकर उन्होंने रेडियम का आविष्कार किया, जिसका प्रयोग व्यापक स्तर पर कैंसर के उपचार के लिए किया जाता है और उसने यूरेनियम और अन्य रेडिओधर्मी तत्वों का अध्ययन किया। पियरे और मेरी के सौहार्दपूर्ण गठजोड़ ने बाद में परमाणु (एटम) की खोज में सहयोग किया। अपने पति पियरे के साथ, इन्हें वर्ष 1903 में भौतिकी में नोबल पुरस्कार प्रदान किया गया।

मेरी का जन्म वॉरसा, पोलैड में दिनांक 7 नवंबर 1867 को हुआ था, जो एक भौतिकी अध्यापक की पुत्री थीं। अपनी आरंभिक आयु में उन्होंने उत्कृष्ट मस्तिष्क और तीव्र व्यक्तित्व का प्रदर्शन किया। सीखने के प्रति उनकी विशिष्ट इच्छा ने उन्हें हाइस्कूल के बाद आगे अध्ययन जारी रखने के लिए प्रेरित किया। यद्यपि जब उन्हें पता चला कि वॉरसा में विश्वविद्यालय महिलाओं के लिए बंद हो गई है तो उन्हें अत्यंत निराशा हुई।

उच्चतर शिक्षा प्राप्त करने के लिए दृढ़संकल्पित होने के कारण उन्होंने पोलैड को छोड़ दिया और वर्ष 1891 में फ्रेंच विश्वविद्यालय सोरबोन में प्रवेश लिया, जहां उन्होंने अपनी मास्टर्स की डिग्री प्राप्त की और भौतिकी में डॉक्टरेट प्राप्त की।

मेरी बहुत खुशकिस्मत थी कि उसे सोरबोन में, उस समय के कुछ महान वैज्ञानिकों के साथ कार्य करने का मौका मिला, जिनमें से एक पियरे क्यूरी थे। मेरी और पियरे का विवाह 1895 में हुआ था और उन्होंने भौतिकी प्रयोगशाला में मिलकर अनेक सृजनात्मक वर्षों के लिए कार्य किया। रेडियम के आविष्कार के कुछ समय पश्चात ही, वर्ष 1909 में एक घोड़ा-गाड़ी द्वारा उनकी मृत्यु हो गई। मेरी इस दुखद घटना के कारण स्तब्ध हो गईं और हृदयविदारक शोक में डूब गईं। इस उदासी में, उन्होंने अपने निकट सम्बन्ध और वैज्ञानिक अनुसंधानों में साझा किये गये हर्ष के समय को याद किया। अपनी दो बेटियों को बड़ा करने के उत्तरदायित्व ने उसके तनाव को अत्यधिक बढ़ा दिया था।

अन्ततः क्यूरी की विषाद की स्थिति उस समय धूमिल हो गई जब, उन्हें सोरबोन में भौतिकी के प्रोफेसर के रूप में अपने पति का स्थान लेने को कहा गया। वह पहली महिला थीं, जिन्हें विश्व प्रसिद्ध विश्वविद्यालय में प्रोफेसरशिप प्रदान की गई थी। उन्होंने वर्ष 1911 में रेडियम पार्थक्य के लिए रसायन शास्त्र में दूसरा नोबल पुरस्कार प्राप्त किया। क्यूरी की सबसे बड़ी बेटी आइरीन खुद एक वैज्ञानिक थीं और रसायन शास्त्र में नोबल पुरस्कार विजेता थीं।

हालांकि, अन्ततः मैरी क्यूरी को रेडियम के दीर्घकालिक उद्घासन के कारण घातक रोग हो गया, लेकिन उनका अपने कार्य के प्रति कभी मोहभंग नहीं हुआ। परिणामों की परवाह किये बिना उन्होंने स्वयं को विज्ञान और भौतिक संसार के रहस्यों को उजागर करने के प्रति समर्पित किया था।

यह पैसेज दर्शाता है कि मैरी क्यूरी एक महान वैज्ञानिक थीं, जो / जिनका

1. सौहार्दपूर्ण प्रकृति की थीं।
2. विज्ञान के प्रति अदम्य जोश और समर्पण था।
3. भावुक रूप से कमजोर थीं।
4. अपने पति की मृत्यु के पश्चात् मोहभंग हो गया था।

[Question ID = 590][Question Description = 150_0_GP16_SEP22_S2_Q50]

1. 1 [Option ID = 2357]
2. 2 [Option ID = 2358]
3. 3 [Option ID = 2359]
4. 4 [Option ID = 2360]

