



1 Consider the following about thermal batteries, seen in news recently.

1. It is a non-rechargeable, single use battery that is completely inert before being activated.
2. A thermal battery provides its power by converting thermal energy to electrical energy and not from a reactive electrochemical couple as in the case of Lithium-ion cells.
3. Thermal batteries are classified as highly explosive and cannot be destroyed by conventional means.

◦ Select the correct answer using the codes below.

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

◦ Your Answer : D

◦ Correct Answer : A

◦ **Answer Justification :**

Justification: Statement 1: A thermal battery is an exceptionally reliable source of specific energy. It is a non-rechargeable, single use battery that is completely inert before being activated.

- It can be stored without requiring maintenance for 15 years and then brought into use at any time, requiring only several tenths of a second before it is ready for use.
- Activation is effected internally either by mechanical or electrical ignition. Certain batteries can also be activated automatically, for example through an accelerating effect or a sudden increase in temperature.
- It can function under severe climatic and mechanical environments. Its intrinsic qualities mean that it is impervious to high stresses, sudden shocks and sharp pressure drops.
- Thermal batteries can supply the highest level of specific powers available on the market. It is also possible to provide several output voltages from a single battery.

Statement 2: A thermal battery provides its power not by converting thermal energy to electrical energy, but from a reactive electrochemical couple. Discharge is either terminated by exhaustion of the cell materials or by solidification of the electrolyte upon cooling.

Statement 3: Thermal batteries are classified as non-explosive and non-pyrotechnic equipment items for the purposes of transport and storage as for UN regulation. They can be handled without risk and destroyed by conventional means.

India has become home to the world's first-ever thermal battery plant. The thermal battery facility, inaugurated in Andhra Pradesh, will be owned by Bharat Energy Storage Technology Private Limited (BEST).



Learning: How it Works: This is an extension of explanation for Statement 2:

The thermal battery is composed of a series of cells each one having an anode, electrolyte, cathode and a heating pellet. The electrolyte, which functions as a separator between the anode and the cathode, remains solid and non-conductive until activation.

The battery remains completely inert while being stored. In each battery, the necessary number of cells is connected in series or parallel, or a combination of both, in order to produce the required voltage level(s).

At the moment of activation the pyrotechnic material (heat source) is ignited and releases energy into the cells. The temperature increases, the electrolyte melts and ion exchange takes place: the power in the cell is thus liberated.

The electrical current is transmitted through the terminals to external cabling to provide the energy required to the load.

- Pyrotechnics is the science of using materials capable of undergoing self-contained and self-sustained exothermic chemical reactions for the production of heat, light, gas, smoke and/or sound.
- Pyrotechnics include not only the manufacture of fireworks but items such as safety matches, oxygen candles, explosive bolts and fasteners, components of the automotive airbag and gas pressure blasting in mining, quarrying and demolition.

Q Source: Additional Research:

<http://www.insightsonindia.com/2018/08/08/insights-daily-current-affairs-08-august-2018/>

http://www.asb-group.com/sites/default/files/FICHE-9-GB_ASB.pdf

2 It is argued that GDP does not cover up externalities in production of goods and services. If there are positive externalities then

- A. The socially desirable GDP will be lower than commercially desirable GDP
- B. The socially desirable GDP will be higher than commercially desirable GDP ✓
- C. The socially desirable GDP cannot be produced with the intervention of the state.
- D. The commercially desirable GDP will not be able to utilize all economic resources efficiently.

- Your Answer : B
- Correct Answer : B

◦ **Answer Justification :**

Learning: Consumption, production, and investment decisions of individuals, households, and firms often affect people not directly involved in the transactions. Sometimes these indirect effects are tiny.




- But when they are large they can become problematic—what economists call externalities. Externalities are among the main reasons governments intervene in the economic sphere.
- In the case of pollution—the traditional example of a negative externality—a polluter makes decisions based only on the direct cost of and profit opportunity from production and does not consider the indirect costs to those harmed by the pollution. The indirect costs include decreased quality of life, say in the case of a home owner near a smokestack; higher health care costs; and forgone production opportunities, for example, when pollution harms activities such as tourism.
- Since the indirect costs are not borne by the producer, and therefore not passed on to the end user of the goods produced by the polluter, the social or total costs of production are larger than the private costs.
- There are also positive externalities, and here the issue is the difference between private and social gains. For example, research and development (R&D) activities are widely considered to have positive effects beyond those enjoyed by the producer that funded the R&D—normally, the company that pays for the research.
- This is because R&D adds to the general body of knowledge, which contributes to other discoveries and developments. However, the private returns of a firm selling products based on its own R&D typically do not include the returns of others who benefited indirectly. With positive externalities, private returns are smaller than social returns.

Q Source: Page 30: 12th Macroeconomics NCERT

3 Consider the following statements.

1. National Health Accounts (NHA) is a tool to describe health expenditures and flow of funds in both government and private sector in the country.
2. The estimates of NHA are derived within the framework of National Health Accounts Guidelines for India.

◦ Which of the above is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2 
- D. None

◦ Your Answer :

◦ Correct Answer : C

◦ **Answer Justification :**

Justification: These estimates are derived within the framework of National Health Accounts

Guidelines for India, 2016 (with refinements where required) and adhere to System of Health Accounts 2011 (SHA 2011), a global standard framework for producing health accounts.

This report provides healthcare expenditures in India based on National Health Accounts Guidelines for India, 2016 (with refinements where required) that adhere to System of Health Accounts 2011 (SHA 2011), a global standard framework for producing health accounts.

NHA estimates for India is a result of an institutionalised process wherein, the boundaries, data sources, classification codes and estimation methodology have all been standardised in consultation with national and international experts under the guidance of NHA Expert Group for India.

NHA estimates 2014-15 is the second round of estimates for India presented according to System of Health Accounts 2011 (SHA2011).

Q Source: <https://mohfw.gov.in/newshighlights/national-health-accounts-estimates-india-2014-15>

4 Consider the following statements about Three-dimensional (3D) face recognition technology.

1. It can also identify a face from a range of viewing angles.
2. An important advantage of 3D face recognition is that it is not affected by changes in lighting.
3. Face recognition is not significantly affected even if the subject changes facial expressions.

◦ Select the correct answer using the codes below.

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

◦ Your Answer : A

◦ Correct Answer : B

◦ **Answer Justification :**

Justification: 3D face recognition is a modality of facial recognition methods in which the three-dimensional geometry of the human face is used.

It has been shown that 3D face recognition methods can achieve significantly higher accuracy than their 2D counterparts, rivaling fingerprint recognition.

Statement 2: 3D research is enhanced by the development of sophisticated sensors that do a better job of capturing 3D face imagery. The sensors work by projecting structured light onto the face. Up to a dozen or more of these image sensors can be placed on the same CMOS chip—each sensor captures a different part of the spectrum.

Statement 3: 3D face recognition has the potential to achieve better accuracy than its 2D counterpart by measuring geometry of rigid features on the face.

This avoids such pitfalls of 2D face recognition algorithms as change in lighting, different facial expressions, make-up and head orientation.



Another approach is to use the 3D model to improve accuracy of traditional image based recognition by transforming the head into a known view.

Additionally, most 3D scanners acquire both a 3D mesh and the corresponding texture. This allows combining the output of pure 3D matchers with the more traditional 2D face recognition algorithms, thus yielding better performance.

The main technological limitation of 3D face recognition methods is the acquisition of 3D image, which usually requires a range camera.

Q Source: Frequently in news

https://www.huffingtonpost.in/2018/08/15/facial-recognition-ai-is-shaking-up-criminals-in-punjab-but-should-you-worry-too_a_23502796/

5 Bhoomi Rashi was recently in news. It is a portal that

1. Comprises the entire revenue data of the country right down to the village level
2. Provides approximate market price of land in any part of India

◦ Which of the above is/are correct?

- A. 1 only ✓
- B. 2 only
- C. Both 1 and 2 ✗
- D. None

◦ Your Answer : C

◦ Correct Answer : A

◦ **Answer Justification :**

Justification: Bhoomi Rashi, the portal developed by MoRTH and NIC, comprises the entire revenue data of the country, right down to 6.4 lakh villages.

- The entire process flow, from submission of draft notification by the State Government to its approval by the Hon. Minister of State for RT&H and publication in e-Gazette, is online.
- The portal, created for expediting the process of publication of notifications for LA, is now being fully utilised for issuing the notifications.
- Bhoomi Rashi portal has been instrumental in reducing the time taken for approval and publication of notifications pertaining to land acquisition.
- The Public Financial Management System (PFMS) is an end-to- end solution for processing payments, tracking, monitoring, accounting, reconciliation and reporting.



Q Source:

<http://www.insightsonindia.com/2018/08/06/insights-daily-current-affairs-06-august-2018/>

6 Why 15th August was chosen as the Independence Date of India?

- A. It was on this date that Indian Independence Bill was introduced in the British House of Commons and passed.
- B. Lord Mountbatten chose the date as he considered this date to be lucky. ✓
- C. It was on this date that the Lahore Session of the Congress passed the "Purna Swaraj" resolution.
- D. On this date, India's Constituent Assembly passed the "Objectives Resolution" granting freedom to India.

- Your Answer : B
- Correct Answer : B

◦ **Answer Justification :**

Justification & Learning: Option A: Indian Independence Bill was introduced in the British House of Commons on July 4, 1947 and passed within a fortnight.

Option B: The date was chosen by Lord Mountbatten himself because he had considered this date to be lucky. It was on this day during the World War II, that the Japanese Army surrendered to the allies.

Option C: In 1929, when Jawaharlal Nehru as Congress President gave the call for 'Poorna Swaraj' or total independence from British colonial rule, January 26 was chosen as the Independence Day. Later it was declared as the Republic Day.

Q Source:

<http://indianexpress.com/article/india/india-news-india/why-was-august-15-chosen-as-independence-day/>

7 Which of these developments are linked to the Cold War Period?

- A. Establishment of the UN
- B. Creation of nuclear weapons
- C. Emergence of Communist China
- D. All of the above ✓

- Your Answer : D
- Correct Answer : D

◦ **Answer Justification :**

Justification: The cold war period was marked by the political, economic, and military confrontation at the global level between the two blocs led by the superpowers, the US and the



USSR.

The same period also witnessed developments like the establishment of the UN in 1945, the creation of nuclear weapons, the emergence of Communist China, and the beginning of decolonisation.

Option C The Communist Party of China was formed in 1921. It was under Mao Zedong's control in 1927. Eventually, Mao led a revolution, and the communist party obtained control in 1947.

So India's leadership had to pursue its national interests within the prevailing international context.

Q Source: 12th NCERT Contemporary World Politics

8 You will observe that rainfall generally shows a reducing pattern when moving from equator to the poles. This is due to

- A. Change in solar insolation ✓
- B. Greater cloudiness at the sub-tropics than at the equator
- C. Formation of wavy isotherms at equator
- D. Movement of Jet streams along the way

- Your Answer : A
- Correct Answer : A

◦ **Answer Justification :**

Justification: Two patterns are broadly observed.

One, rainfall reduces from coastal to interior areas. Second, as mentioned in the question.

Any moisture-laden winds from ocean will first hit the coastal areas and then interior areas. Moisture would go on reducing as the wind advance further in.

Poles receive lesser solar insolation, have lesser evaporation and rainfall. Reverse is true for equator. So, A is correct.

Jet Streams do not play a significant role here and so Option D can be neglected.

Q Source: Page 101: Fundamentals of Physical Geography: 11th NCERT

9 Kant's views represent, what is called, the moral conception of rights. This position rests upon two arguments. These include

1. We should be treating others as we would like to be treated ourselves.
2. We should not treat the other person as means to our ends.

- Which of the above is/are correct?
 - A. 1 only
 - B. 2 only



- C. Both 1 and 2 ✓
D. None

- Your Answer : C
- Correct Answer : C

◦ **Answer Justification :**

Justification: Human beings', unlike all other objects, possess dignity. They are, for this reason valuable in themselves.

For the eighteenth century German philosopher, Immanuel Kant, this simple idea had a deep meaning. For it meant that every person has dignity and ought to be so treated by virtue of being a human being. A person may be uneducated, poor or powerless. He may even be dishonest or immoral. Yet, he remains a human being and deserves to be given some minimum dignity.

For Kant, to treat people with dignity was to treat them morally. This idea became a rallying point for those struggling against social hierarchies and for human rights.

Kant's views represent, what is called, the moral conception of rights. This position rests upon two arguments. First, we should be treating others as we would like to be treated ourselves.

Second, we should make sure that we don't treat the other person as means to our ends. We should not treat people as we treat a pen, a car, or a horse. We ought to respect people not because they are useful to us, but because they are, after all, human beings. That is, we should respect people not because they are useful to us but because they are, after all, human beings.

Q Source: Chapters on Rights and Justice: 11th NCERT: Political Theory

10 The '8888' uprising of Myanmar was recently in news. Which of the following issues/concerns/activities were NOT central to the movement?

- A. Challenging the grip of the then ruling Burma Socialist Programme Party's grip on the general affairs of the country ✗
- B. Transfer of power from the military to a civilian leadership
- C. Change of regime from an authoritarian regime to a multi-party democracy
- D. Opposing the intrusion of East Asian countries in the mainstream economic development of Myanmar ✓

- Your Answer : A
- Correct Answer : D

◦ **Answer Justification :**

Learning: It was a series of nationwide protests, marches and civil unrest in Burma (Myanmar) that peaked in August 1988. Key events occurred on 8 August 1988 and therefore it is known as the 8888 Uprising.



August 8 marks the 30th anniversary of this uprising.

'8888' was a people's movement that challenged the then ruling Burma Socialist Programme Party's grip on political, economic and social affairs which led the country into extreme poverty.

The objective of '8888' was two-fold: to push for the transfer of power from the military to a civilian leadership and a change in the political system from an authoritarian regime to a multi-party democracy.

- The protests and the bloody crackdown gave rise to the National League for Democracy (NLD), a political party which paved the way for the current Myanmar State Counsellor, Aung San Suu Kyi's entry into politics and for the pro-democracy movement to continue.
- The democratic transition in Myanmar thus far has been meticulously designed by the military. The primary objective, which is laid out in the country's 2008 Constitution, is to give the military a dominant role in politics.
- In a parallel to the 'Burmese way to socialism' introduced by former military leader Ne Win in the 1960s, Myanmar now practices what can be called the 'Burmese way to democracy' as introduced by former Prime Minister Khin Nyunt in 2003 when he announced the military's seven-step road map to a flourishing democracy.

Q Source:

<http://www.insightsonindia.com/2018/08/07/insights-daily-current-affairs-07-august-2018/>

11 Which of these statements about the relationship between democracy and rights is valid?

1. Every country that is a democracy gives some rights to its citizens.
2. Every country that gives rights to its citizens is a democracy.
3. Giving rights to people is not necessary for a democracy.

◦ Select the correct answer using the codes below.

- A. 1 only ✓
- B. 1 and 3 only
- C. 2 only
- D. 1 and 2 only

◦ Your Answer : A

◦ Correct Answer : A

◦ **Answer Justification :**

Justification: Statement 1: The fundamental tenet of democracy is that the ultimate source of power should lie in the hands of the people. If they do not have any rights, they do not enjoy power. Without such empowerment, it is strange to imagine democracy.



Statement 2: Even despotic countries give rights to their citizens. Not every polity that gives rights can be a democratic polity.

Statement 3: Logically deducing from S1 and S2, S3 should be false.

Q Source: Chapter on Rights: 11th NCERT: Political Theory

12 Consider the following statements.

1. Global Atmosphere Watch of the UN-SPIDER studies the variability and trends in atmospheric composition and assesses the consequences thereof.
2. The Integrated Drought Management Programme (IDMP) of the World Meteorological Organization (WMO) supports stakeholders at all levels by providing policy and management guidance for Integrated Drought Management.

◦ Which of the above is/are correct?

A. 1 only

B. 2 only ✓

C. Both 1 and 2 ✗

D. None

◦ Your Answer : C

◦ Correct Answer : B

◦ **Answer Justification :**

Justification: Statement 1: The Global Atmosphere Watch (GAW) Programme provides information and services on atmospheric composition to the public and to decision-makers relating to:

- the steadily increasing amounts of greenhouse gases, especially carbon dioxide, are impacting the climate
- the depletion of the protective stratospheric ozone layer has increased ultraviolet radiation, which can lead to more incidences of skin cancer and other diseases
- urban air pollution, especially fine particles, which is affecting human health

Statement 2: The overarching approach for the Programme at WMO) centres around four key principles:

To shift the focus from reactive (crisis management) to proactive measures through drought mitigation, vulnerability reduction and preparedness

To integrate the vertical planning and decision-making processes at regional, national and community levels into a multi-stakeholder approach that includes key sectors, especially agriculture and energy



To promote the evolution of the drought knowledge base and to establish a mechanism for sharing knowledge and providing services to stakeholders across sectors at all levels

To build capacity of various stakeholders at the regional, national and community levels

Q Source: <https://public.wmo.int/en/programmes/global-atmosphere-watch-programme>

<https://public.wmo.int/en/programmes/integrated-drought-management-programme>

13 The minerals that are found on earth only in meteorites include

1. Reidite
2. Kamacite
3. Schreibersite

◦ Select the correct answer using the codes below.

- A. 1 only
- B. 1 and 2 only ✓
- C. 2 and 3 only
- D. 1 and 3 only

◦ Your Answer :

◦ Correct Answer : B

◦ **Answer Justification :**

Justification: Statement 1: Reidite is a rare mineral that has been found only in five crater impacts: the Chesapeake Bay Crater in Virginia, Ries Crater in Germany, Xiuyan Crater in China, Rock Elm Crater in Wisconsin in the United States, and Stac Fada in Scotland.

Reidite is a dense form of zircon, one of the hardest minerals on Earth.

Zircon morphs into reidite when shock waves from meteorite impacts hike up pressures and temperatures to extreme levels, equal to those deep inside the Earth where diamonds form.

Statement 2: Kamacite is an alloy of iron and nickel, which is found on Earth only in meteorites.

Uakitite is a new mineral has been discovered in a meteorite in Eastern Russia.

A meteorite is a solid piece of debris from an object, such as a comet, asteroid, or meteoroid, that originates in outer space and survives its passage through the atmosphere to reach the surface of a planet or moon.

It is named “uakitite” after the Uakit region of Siberia where the meteorite was discovered.

98% of the Uakit meteorite is an iron alloy called kamacite, which so far has only been found in other meteorites. The other two percent is comprised of minerals that form in space.

Statement 3: The only known occurrence of the mineral on Earth is located on Disko Island in Greenland. It is found in meteorites too.



Q Source:

<https://www.forbes.com/forbes/welcome/?toURL=https://www.forbes.com/sites/trevornace/2018/08/09/alien-mineral-discovered-inside-russian-meteorite/&refURL=https://www.google.co.in/&referrer=https://www.google.co.in/>
<http://www.geologyin.com/2017/12/rare-mineral-found-only-in-ancient.html>

14 Consider the following statements.

Assertion (A): Political speeches made for the conservation of the language of a section of the citizens under Article 29 is considered a corrupt practice under the Representation of the People Act, 1951.

Reason (R): Article 29 provides the right to conservation of culture to only either religious or linguistic minorities.

- In the context of the above, which of these is correct?
 - A. A is correct, and R is an appropriate explanation of A.
 - B. A is correct, but R is not an appropriate explanation of A.
 - C. A is incorrect, but R is correct.
 - D. Both A and R are incorrect. ✓

- Your Answer : D
- Correct Answer : D

◦ **Answer Justification :**

Justification: Article 29 provides that any section of the citizens residing in any part of India having a **distinct language, script or culture** of its own, shall have the right to conserve the same.

Article 29 grants protection to both religious minorities as well as linguistic minorities. However, the Supreme Court held that the scope of this article is **not necessarily restricted to minorities only**, as it is commonly assumed to be. This is because of the use of words 'section of citizens' in the Article that include minorities as well as majority.

Further, no citizen shall be denied admission into any educational institution maintained by the State or receiving aid out of State funds on grounds only of religion, race, caste, or language.

The first provision protects the right of a group while the second provision guarantees the right of a citizen as an individual irrespective of the community to which he belongs.

Statement R The Supreme Court also held that the right to conserve the language includes the right to agitate for the protection of the language. Hence, the political speeches or promises made for the conservation of the language of a section of the citizens does not amount to corrupt practice under the Representation of the People Act, 1951.

Q Source: Chapter 7: Indian Polity: M Laxmikanth

15 Which of the following is NOT an Indian Ocean current?



- A. Agulhas
- B. Leeuwin
- C. Equatorial counter-current
- D. East Australian current ✓

- Your Answer : D
- Correct Answer : D

◦ **Answer Justification :**

Learning: Below are mentioned some Indian ocean currents and their pattern of circulation:

The general pattern of circulation in southern part of the Indian Ocean is quite similar to that of southern Atlantic and Pacific oceans. It is less marked by the seasonal changes.

- The south equatorial current, partly led by the corresponding current of the Pacific Ocean, flows from east to west.
- It splits into two branches, one flowing to the east of Madagascar known as Agulhas current and the other between Mozambique and Western Madagascar coast known as Mozambique current.
- At the southern tip of Madagascar, these two branches mix and are commonly called as the Agulhas current. It still continues to be a warm current, till it merges with the West Wind Drift.
- The West Wind Drift, flowing across the ocean in the higher latitudes from west to east, reaches the southern tip of the west coast, of Australia.
- One of the branches of this cold current turns northwards along the west coast of Australia. This current, known as the West Australian current, flows northward to feed the south equatorial current.

Q Source: Additional Research: Page 83: Fundamentals of Physical Geography: 11th NCERT

16 Anantnag, Baramula, and Pahalgam are well known for

- A. Production of Kashmiri willow Cricket Bats ✓
- B. Cave paintings of Sonbhadra and Chitrakoot
- C. Fabrics like chiffon, muslin and organza
- D. Metalwork of Badohi and decorated terracotta horse

- Your Answer : A



◦ Correct Answer : A

◦ **Answer Justification :**

Justification: Option A: These are some of the districts where Kashmir willow bats are made. The willow used in making these bats was brought in by the British. These willows are lighter and more powerful than ordinary wood, making them more effective as a hitting bat.

Option B: The cave paintings of Sonbhadra and Chitrakoot depict scenes of hunting, war, festivals, dances, romantic life and animals and belong to UP.

Option C: One of the important crafts of Uttar Pradesh is Chikankari, which entails delicate and traditional hand embroidery. This form of handicrafts is mainly practiced in Lucknow. It is done on fabrics like chiffon, muslin, organza, organdie and silk.

Option D: Gorakhpur has villages where clay figures of animals are done and It is famous for its ornately decorated terracotta horse. The potter creates the basic form by throwing separate pieces on the wheel and then joining them.

Moradabad in U P is famous for art metalwork and known for its coloured enamelling and intricate engravings.

Q Source: Additional Research: Page 75: Geography NCERT 7th: Our Environment

17 The Wood's Despatch 1854 came to India with which of the following objectives?

1. Deciphering ancient Indian texts to bring out their relevance to the modern society
2. To educate the natives of India so that a class of public servants could be created.
3. To develop practical and vocational skills of the Indians to increase production in India
4. Promote education without any cost imposed on the public in India

◦ Select the correct answer using the codes below.

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

◦ Your Answer : C

◦ Correct Answer : A

◦ **Answer Justification :**

Justification: The Despatch had the following objectives in view:

- To impart Western knowledge, information about the western culture to the Indians.
- To educate the natives of India so that a class of public servants could be created.



- To promote intellectual development and also raise the moral character of the young generation.
- To develop practical and vocational skills of the Indians people so that more and more articles could be produced and also to create a good market for consumption of those goods.

So, clearly statement 1 is wrong.

Statement 4: The Wood's Despatch recommended the sanction of a grant-in-aid system in the Indian educational system and argued that schools must charge fees from their students. So, 4 is also incorrect.

Learning: Outlining the educational policy that was to be followed in India, it emphasised once again the practical benefits of a system of European learning, as opposed to Oriental One of the practical uses the Despatch pointed to was economic.

- European learning, it said, would enable Indians to recognise the advantages that flow from the expansion of trade and commerce, and make them see the importance of developing the resources of the country.
- Introducing them to European ways of life, would change their tastes and desires, and create a demand for British goods, for Indians would begin to appreciate and buy things that were produced in Europe.
- Following the 1854 Despatch, several measures were introduced by the British. Education departments of the government were set up to extend control over all matters regarding education. Steps were taken to establish a system of university education

Q Source: Page 98: History Standard 8th NCERT: Our pasts: Part II

18 Consider the following statements.

1. International Commission on Stratigraphy is responsible for standardising the geologic time scale.
2. The Meghalayan Age began with a mega global drought that devastated present day ancient agricultural civilisations from Egypt to China.
3. The Holocene age has been dated to nearly 250,000 years ago.

◦ Select the correct answer using the codes below.

- A. 1 and 2 only ✓
- B. 2 only
- C. 1 only ✗
- D. 2 and 3 only

◦ Your Answer : C



◦ Correct Answer : A

◦ **Answer Justification :**

Justification: Scientists have created a new phase in Earth's geological history and named it Meghalayan, after a stalagmite from a cave in the Indian state of Meghalaya that helped define climatic events 4,200 years ago, marking the beginning of the phase that continues till today.

- The Meghalayan Age began with a mega global drought that devastated ancient agricultural civilisations from Egypt to China. It is part of a longer period known as the Holocene Epoch, which reflects everything that has happened over the past 11,700 years.
- Evidence of the climatic event has been found in sediments on all seven continents, including those from Meghalaya.
- The Meghalayan is unique because it is the first interval in Earth's geological history that coincided with a major cultural event, as agricultural societies struggled to recover from the shift in climate.
- The droughts over a 200-year period resulted in human migrations in Egypt, Greece, Syria, Palestine, Mesopotamia, the Indus valley and the Yangtze river valley.
- International Union of Geological Sciences (IUGS) has officially accepted the new phase. Besides, two other ages — the Middle Holocene Northgrippian Age and the Early Holocene Greenlandian Age — with beginnings defined at climatic events that happened about 8,300 years and 11,700 years ago, respectively, were also approved by the International Commission on Stratigraphy, which is responsible for standardising the geologic time scale.

Q Source: <http://www.insightsonindia.com/2018/07/20/insights-daily-current-affairs-20-july-2018/>

19 Consider the following statements.

1. Ants and rodents help in soil formation as they rework the soil up and down.
2. Earthworms feed on soil and the soil that comes out of their body has a changed texture and chemistry.

◦ Select the correct answer using the codes below.

- A. 1 only
- B. 2 only
- C. Both 1 and 2 ☒
- D. None of the above

◦ Your Answer : C

◦ Correct Answer : C



◦ **Answer Justification :**

Justification: Soil formation is influenced by organisms (such as plants), micro-organisms (such as bacteria or fungi), burrowing insects, animals and humans.

As soil forms, plants begin to grow in it. The plants mature, die and new ones take their place. Their leaves and roots are added to the soil. Animals eat plants and their wastes and eventually their bodies are added to the soil.

This begins to change the soil. Bacteria, fungi, worms and other burrowers break down plant litter and animal wastes and remains, to eventually become organic matter. This may take the form of peat, humus or charcoal.

Q Source: Concepts of Weathering of soil in 11th NCERT Fundamentals of Physical Geography

20 The policy of 'land to the tiller' is more likely to be a case in

- A. Communist economies
- B. Contract farming ✓
- C. Cooperative Farming
- D. None of the above in any case

- Your Answer : B
- Correct Answer : B

◦ **Answer Justification :**

Justification: The policy of 'land to the tiller' is based on the idea that the cultivators will take more interest—they will have more incentive—in increasing output if they are the owners of the land. This is because ownership of land enables the tiller to make profit from the increased output. Tenants do not have the incentive to make improvements on land since it is the landowner who would benefit more from higher output.

Statement 1: The importance of ownership in providing incentives is well illustrated by the carelessness with which farmers in the former Soviet Union used to pack fruits for sale. This is because in communist economies the farmers do not own the land.

Statement 2: Contract farming can be defined as agricultural production carried out according to an agreement between a buyer and farmers, which establishes conditions for the production and marketing of a farm product or products. Typically, the farmer agrees to provide agreed quantities of a specific agricultural product. The farmer usually owns the land.

Statement 3: The land is owned collectively by the cooperative and not necessarily the tiller.

Q Source: Chapter 3: 11th NCERT: Indian Economic Development

21 Among the following which one comes closest to be able to measure the degree of human development in a country?



- A. Gross Domestic Product or GDP
- B. Gross Capital Formation
- C. Growth in physical and natural resources
- D. Gross Domestic Product Per capita ✓

- Your Answer : D
- Correct Answer : D

◦ **Answer Justification :**

Justification: Option A and D: Option D is a better indicator because it shows the per capita wealth of the nation and not only the total wealth which might be misleading.

Option B: This shows the total physical infrastructure which might also be misleading.

Option C: We have covered this issue earlier. It is not only the quantum of natural resources but its use in a production chain that makes a nation rich.

Q Source: Chapter 1: 12th NCERT Macroeconomics

22 Consider the following statements.

1. A tropical cyclone is a rapidly rotating storm system characterized by a low-pressure centre and a closed low-level atmospheric circulation.
2. Tropical cyclones typically form over large bodies of relatively warm water and derive their energy through the evaporation of water from the ocean surface.

- Which of the above is/are correct?
 - A. 1 only
 - B. 2 only
 - C. Both 1 and 2 ✓
 - D. None

- Your Answer : C
- Correct Answer : C

◦ **Answer Justification :**

Justification: A tropical cyclone is a rapidly rotating storm system characterized by a low-pressure center, a closed low-level atmospheric circulation, strong winds, and a spiral arrangement of thunderstorms that produce heavy rain.

Depending on its location and strength, a tropical cyclone is referred to by different names, including hurricane, tropical storm, cyclonic storm, tropical depression, and simply cyclone.

These storms whirl round their central clear eye, with their winds blowing counterclockwise in the Northern Hemisphere and blowing clockwise in the Southern Hemisphere. The opposite direction of circulation is due to the Coriolis effect.



Tropical cyclones typically form over large bodies of relatively warm water. They derive their energy through the evaporation of water from the ocean surface, which ultimately recondenses into clouds and rain when moist air rises and cools to saturation.

This energy source differs from that of mid-latitude cyclonic storms, such as nor'easters and European windstorms, which are fueled primarily by horizontal temperature contrasts. Tropical cyclones are typically between 100 and 2,000 km in diameter.

The strong rotating winds of a tropical cyclone are a result of the conservation of angular momentum imparted by the Earth's rotation as air flows inwards toward the axis of rotation.

Q Source: Additional Research: Chapter 3 (last page): Concept of cyclonic rainfall: 7th NCERT Geography

- 23** The Supreme Court, and not a High court, is considered as a defender and guarantor of the fundamental rights because
1. A constitutional remedy under Article 226 is discretionary for a High court but a remedy under Article 32 is mandatory for a Supreme Court.
 2. The Supreme Court can issue writs under Article 32 for the enforcement of both fundamental rights and ordinary rights whereas a high court can issue writs only to enforce Fundamental Rights.
- Which of the above is/are correct?
- A. 1 only ✓
B. 2 only
C. Both 1 and 2
D. None

◦ Your Answer : A

◦ Correct Answer : A

◦ **Answer Justification :**

Justification: Statement 1: The Supreme Court can issue writs only for the enforcement of fundamental rights whereas a high court can issue writs not only for the enforcement of Fundamental Rights but also for any other purpose.

The expression 'for any other purpose' refers to the enforcement of an ordinary legal right. Thus, the writ jurisdiction of the Supreme Court, in this respect, is narrower than that of high court.

Statement 2: A remedy under Article 32 is in itself a Fundamental Right and hence, the Supreme Court may not refuse to exercise its writ jurisdiction. On the other hand, a remedy under Article 226 is discretionary and hence, a high court may refuse to exercise its writ jurisdiction. Article 32 does not merely confer power on the Supreme Court as Article 226 does on a high court to issue writs for the enforcement of fundamental rights or other rights as part of its general jurisdiction.

Learning: The Supreme Court can issue writs against a person or government throughout the territory of India whereas a high court can issue writs against a person residing or against a government or authority located within its territorial jurisdiction only or outside its territorial



jurisdiction only if the cause of action arises within its territorial jurisdiction.¹⁵ Thus, the territorial jurisdiction of the Supreme Court for the purpose of issuing writs is wider than that of a high court.

Q Source: Chapter 7: Indian Polity: M Laxmikanth

24 Ecosystem is formed, most appropriately, by the interaction of

- A. Both biotic and abiotic factors of the environment ✓
- B. All Living organisms present in the system
- C. Diverse Landforms found within a large zone
- D. Communities found near edge of a biome

- Your Answer : A
- Correct Answer : A

◦ **Answer Justification :**

Justification: An ecosystem is a system formed by the interaction of all living organisms (biotic) with each other and with the physical and chemical factors (abiotic) of the environment in which they live, all linked by transfer of energy and material.

Biome is a larger region than ecosystem, and comprises many such ecosystems. So, D is incorrect.

We will be covering more questions on the hierarchies of ecology.

Q Source: Page 5: Geography NCERT 7th: Our Environment

25 Joining which of these regions of West Asia would more or less yield a straight line?

- A. Ankara, Baghdad and Ashgabat
- B. Amman, Damascus and Aleppo ✓
- C. Tel-Aviv, Mosul and Tehran
- D. Baku, Baghdad and Jerusalem

- Your Answer :
- Correct Answer : B

◦ **Answer Justification :**

Learning: Draw straight lines and verify. These are major regions in the Middle east.



Q Source: West Asia maps

26 Consider the following statements.

1. He was the first Indian Governor General of India.
2. He founded Swatantra Party.
3. He was the first recipient of the Bharat Ratna Award.

◦ Select the correct answer using the codes below.

- A. Rajendra Prasad
- B. C. Rajagopalachari ✓
- C. Satyendra Nath
- D. Surendranath Bose

◦ Your Answer : B

◦ Correct Answer : B

◦ **Answer Justification :**

Justification: C. Rajagopalachari (1878-1972) was a senior leader of Congress and literary writer.

He was a close associate of Mahatma Gandhi and a member of Constituent Assembly. He was also the first Indian to be the Governor General of India (1948-1950) and a minister in Union Cabinet.

He later became Chief Minister of Madras state. He was first recipient of the Bharat Ratna Award and founded Swatantra Party in 1959.

Q Source: 12th NCERT India Since Independence



27 The Mekong is a trans-boundary river in Southeast Asia spanning about 6 countries. Which of these countries lie almost entirely within the lower Mekong basin?

- A. Vietnam
- B. Thailand ✖
- C. Cambodia
- D. Laos ✔

- Your Answer : B
- Correct Answer : D

◦ **Answer Justification :**

Learning: Vietnam, Thailand, Cambodia, Laos, China, Myanmar (Burma) are covered by Mekong. Laos lies almost entirely within the lower Mekong basin. Its climate, landscape and land use are the major factors shaping the hydrology of the river.

The extreme seasonal variations in flow and the presence of rapids and waterfalls in the Mekong make navigation difficult. Even so, the river is a major trade route between western China and Southeast Asia.



Q Source: South-east Asia map

28 Recently adopted Xiamen Declaration of BRICS forum is seen as a triumph for Indian diplomacy. The Xiamen declaration talks about?

1. It explicitly calls out several Pakistan-based terror organisations and expresses concern on the security situation in the Afghanistan-Pakistan region.
2. It exhorts the BRICS countries to work together to promote most effective use of fossil fuels and wider use of gas, hydro and nuclear power.

◦ Which of the above is/are correct?

- A. 1 only ❌
- B. 2 only
- C. Both 1 and 2 ✅
- D. None

◦ Your Answer : A

◦ Correct Answer : C



◦ **Answer Justification :**

Justification: Some salient points from the Xiamen Declaration:

1. Besides naming terror groups responsible for violence and causing concern, Brics called for a comprehensive approach to combat terrorism, including countering radicalisation, recruitment, movement of terrorists, supply of weapons and money laundering.
 - It also referred to violence caused by the Taliban, Al-Qaida and its affiliates, including the Eastern Turkistan Islamic Movement Haqqani network, Lashkar-e-Taiba, Jaish-e-Mohammad, Tehrik-i-Taliban Pakistan etc.
 - The Chinese government, as is evident from the inclusion of the Uighur-focused Eastern Turkistan Islamic Movement in the above list, is concerned about growing Islamist activity in its western provinces.
2. Working together to promote most effective use of fossil fuels and wider use of gas, hydro and nuclear power, which will contribute to the move towards a low emission economy, better energy access and sustainable development.
3. Commitment to promote green development and low-carbon economy in the context of sustainable development and poverty alleviation.
4. Enhancing Brics anti-corruption cooperation and supporting the strengthening of international cooperation against corruption.

Q Source: Recently in news

29 Consider the following statements. Alliance for an Energy efficient economy

1. Is a policy advocacy and energy efficiency market enabler
2. Works with a modest-for-profit motive

◦ Which of the above is/are correct?

- A. 1 only ✓
- B. 2 only
- C. Both 1 and 2
- D. None

◦ Your Answer : A

◦ Correct Answer : A

◦ **Answer Justification :**

Justification: AEEE is a policy advocacy and energy efficiency market enabler with a not-for-profit motive.



It is the only organisation in India which works on creating awareness about energy efficiency as a resource (energy efficiency is the cheapest, cleanest and fastest resource and must be the first fuel in India, before thinking about power generation from any fuel, including renewables) advocates for data driven and evidence-based energy efficiency policies that will unleash the innovation and entrepreneurship within the country to create an energy-efficient economy.

AEEE has deep expertise and understanding of the energy services market (e.g. ESPC contracts, measurement and verification, energy efficiency financing including risk sharing and mitigation methods, etc.) and organises both grassroots activities such as awareness and training workshops.

Q Source: <http://www.aeee.in/about-aeee/>

30 The Gender Development Index (GDI) measures differences between male and female achievements in three basic dimensions of human development. This does NOT include

- A. Health
- B. Education
- C. Income
- D. Political participation ✓

- Your Answer : D
- Correct Answer : D

◦ **Answer Justification :**

Justification: The GDI measures differences between male and female achievements in three basic dimensions of human development: health, measured by female and male life expectancy at birth; education, measured by female and male expected years of schooling for children and female and male mean years of schooling for adults ages 25 and older; and equitable command over economic resources, measured by female and male estimated earned income.

The income component of the GDI is a proxy to command over economic resources, rather than a proxy for standard of living components, such as nutrition, clothing and shelter. Wages in all sectors, rather than non-agricultural wages only, are used to impute the income value for males and females. It also focuses on income gaps in a way similar to the focus on gender gaps in other HDI components.

Q Source: Revision: Chapter 2 and 3: Shankar Ganesh

<http://hdr.undp.org/en/faq-page/gender-development-index-gdi>

31 Even when Earth gets nearest to the Sun at perihelion, the effects of this increased solar insolation are not felt on a large scale on earth. This can be due to

- A. Increase in cloudiness in major continental regions
- B. Reduction in solar discharge
- C. Blowing of sea and land breezes ✓



D. Adiabatic wind flow patterns

- Your Answer : C
- Correct Answer : C

◦ **Answer Justification :**

Justification: This variation in the solar output does not have a large effect on daily weather changes on earth at a certain point.

Distribution of land and sea, heat transfer by way of sea and land breezes etc redistribute the increased insolation so that the effects are not felt on a large scale. So, C is correct.

Solar discharge does affect weather patterns, but it is not relevant here. So, B is wrong.

Adiabatic wind flow patterns are found in mountain regions. So, D is wrong.

Increase in cloudiness cannot happen in all major regions due to lack of evaporation from water bodies at all such locations. More cloudiness is the reason why sub-tropical regions are hotter than tropical regions despite getting less solar insolation. So, A is not relevant here.

Q Source: Page 79: Fundamentals of Physical Geography: 11th NCERT

32 Which of the following contribute to the appearance of the Blood Moon?

1. Relative positions of earth, sun and moon
2. Refraction of light travelling through the Earth's atmosphere

- Select the correct answer using the codes below.

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. None of the above

- Your Answer : C
- Correct Answer : C

◦ **Answer Justification :**

Justification: A Lunar Eclipse (Chandra Grahana) is when one can't see the moon at night because its position is relative to the sun and earth ensures that light doesn't fall on the part of it we can see.

The moon gives off no light and is only visible because it reflects the light of the sun. We only see the part where light falls and thus as the earth and moon move through their orbits and different amounts of light falls on the moon, we see different phases of the moon.

When a lunar eclipse (Chandra Grahana) occurs, the Earth comes between the sun and moon, preventing light from falling on the moon. When this happens, the moon appears to glow red and is thus called the blood moon.



Why red colour?

The red colour is because of the way light travels through the Earth's atmosphere. Sunlight is made of several colours and they all have different wavelengths. Depending on the way they travel through our atmosphere, we see different colours. That's why the sun and sky have different colours during sunrise and sunset. Blues and purples have shorter wavelengths and scatter in our atmosphere, giving the sky its inky colour, but reds and oranges have the highest wavelengths and pass through our atmosphere before it is bent or refracted around Earth, hitting the surface of the Moon and making it red.

Q Source: Red blood moon seen recently

33 United Nations (UN) resolution 2231, recently in news, is concerned with which of the following nations?

- A. Ivory Coast
- B. Iran ✓
- C. Myanmar
- D. Sudan ✗

- Your Answer : D
- Correct Answer : B

◦ **Answer Justification :**

Learning: Diplomatic efforts to reach a comprehensive, long-term and proper solution to the Iranian nuclear issue culminated in the Joint Comprehensive Plan of Action (JCPOA) concluded on 14 July 2015 by China, France, Germany, the Russian Federation, the United Kingdom, the United States, the High Representative of the European Union (the E3/EU+3) and the Islamic Republic of Iran.

On 20 July 2015, the Security Council unanimously adopted resolution 2231 (2015) endorsing the JCPOA. The Security Council affirmed that conclusion of the JCPOA marked a fundamental shift in its consideration of the Iranian nuclear issue, expressed its desire to build a new relationship with Iran strengthened by the implementation of the JCPOA and to bring to a satisfactory conclusion its consideration of this matter.

Resolution 2231 (2015) provides for the termination of the provisions of previous Security Council resolutions on the Iranian nuclear issue and establishes specific restrictions that apply to all States without exception. Member States are obligated under Article 25 of the Charter of the United Nations to accept and carry out the Security Council's decisions.

Q Source: <http://www.un.org/en/sc/2231/>

In news recently

34 With reference to the Right of First Refusal (ROFR), see in news recently, consider the following statements.



1. Right of first refusal is a contractual right, but not obligation, to enter into a business transaction with a person or company before anyone else can.
2. If the entity with the right of first refusal declines to enter into a transaction, the owner of the asset who offered the right is free to open the bidding up to other interested parties.

◦ Which of the above is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2 ✓
- D. None

◦ Your Answer : C

◦ Correct Answer : C

◦ **Answer Justification :**

Background: A proposed move by the Centre to abolish the ROFR clause for transportation of Indian cargo by Indian-flagged vessels, the only benefit available to Indian shipping companies is threatening the existence of the domestic shipping industry.

If the clause is scrapped, it could hurt the Indian shipping industry. Indian shipping companies have a combined fleet of 1,372 ships with a total capacity of 12.35 million Gross Tonnage (GT).

The move may also prompt Indian Shipping firms to de- register their vessels from India and flag them in tax havens of Panama and Bahama to survive and compete with foreign lines.

Currently, 92% of India's export import trade is carried by foreign flag ships. And the 8% that is assured to Indian ships is likely to go if the ROFR is scrapped.

Justification: The question statements explain ROFR.

An ROFR can cover almost any sort of asset, including real estate, personal property, a patent license, a screenplay, or an interest in a business.

Example: Abe owns a house and Bo offers to buy that house for \$1 million. However, Carl holds a right of first refusal to purchase the house. Therefore, before Abe can sell the house to Bo, he must first offer it to Carl for the \$1 million that Bo is willing to buy it for. If Carl accepts, he buys the house instead of Bo. If Carl declines, Bo may now buy the house at the proposed \$1 million price.

Why maintain ROFR clause?

The right of first refusal is the only incentive to the Indian flag, which suffers from many disadvantages versus foreign flags.

De-registering of vessels from the Indian flag will be a strategic blow to Indian security as merchant naval fleet always acts as a second line of defence for coastal security.

Q Source:

<https://www.thehindu.com/todays-paper/tp-national/what-is-rofr-clause/article24423794.ece>



35 Which of the following factors are likely to make a country attractive for foreign investment?

1. Zero inflation
 2. High interest rates
- Which of the above is/are correct?
 - A. 1 only
 - B. 2 only ✓
 - C. Both 1 and 2
 - D. None

- Your Answer : B
- Correct Answer : B

◦ **Answer Justification :**

Justification: Statement 1: Zero inflation indicates that the supply of goods equals demand of goods. This also implies that there is no additional demand that an entrepreneur can tap it to sell his new products. This means that no additional production is needed in factories for the short-term and this is not an ideal situation for the entrepreneur.

If inflation is too high, it erodes the returns of the investor. Low and stable inflation is the best case because it not only indicates that there is certain demand for the goods but also that the returns of the investor will not tend to reduce.

Statement 2: If interest rates are high, foreign institutions investors flock to the country to get better returns on their deposits. If interest rates lower down, it usually ends in a mass withdrawal.

It is important to note that high interest rates may deter domestic investment due to the high cost of borrowing; but not foreign investment because foreign investors carry their funds on their own and do not need to borrow.

Q Source: Basic concepts covered in 12th NCERT Macroeconomics

36 A disturbance in which of these controlling factors can upset the systematic and sequential stages in the development and evolution of landforms?

1. Tectonic stability of landmasses
 2. Stability of sea level
 3. Climate
- Select the correct answer using the codes below.
 - A. 1 only
 - B. 2 and 3 only
 - C. 1 and 3 only
 - D. 1, 2 and 3 only ✓

- Your Answer : D
- Correct Answer : D



◦ **Answer Justification :**

Justification: As the geomorphic agents are capable of erosion and deposition, two sets — erosional or destructional and depositional or constructional — of landforms are produced by them. Many varieties of landforms develop by the action of each of the geomorphic agents depending upon especially the type and structure i.e. folds, faults, joints, fractures, hardness and softness, permeability and impermeability, etc. come under structure of rocks.

There are some other independent controls like (i) stability of sea level; (ii) tectonic stability of landmasses; (iii) climate, which influence the evolution of landforms.

Sea level changes can lead to coastal erosion; flooding of coastal regions and creation of coastal landforms.

Climate (wind, precipitation and temperature) is a major factor influencing weathering, mass wasting and soil formation, inter alia.

Q Source: Revision of basic concepts: 11th NCERT: Fundamentals of Physical Geography

37 Which of the following diseases is an occupational hazard?

- A. Silicosis ✓
- B. Tuberculosis
- C. Meningitis
- D. Arthritis

- Your Answer : A
- Correct Answer : A

◦ **Answer Justification :**

Justification: Option A: Silicosis is a progressive interstitial lung disease, characterized by shortness of breath, cough, fever and bluish skin; it can present in three different forms: acute, accelerated and chronic.

- It is caused by the lung tissue reaction to the inhalation of silica and occurs most commonly as an occupational disease of people working in the quarrying, manufacturing and building construction industries. Exposure to large amounts of free silica can go unnoticed because silica is odourless, non-irritant and does not cause any immediate health effects.
- As silicosis is incurable, clinical management includes removing the worker from the industry and giving symptomatic treatment. Public health goals are to detect early cases through monitoring of currently and formerly exposed workers, to establish surveillance programmes, to slow progression and to reduce disability.

Option C: Meningitis is a rare infection that affects the delicate membranes -- called meninges --



that cover the brain and spinal cord. Meningitis is usually caused by a viral infection but can also be bacterial or fungal. Vaccines can prevent some forms of meningitis.

Q Source: <http://www.who.int/bulletin/volumes/94/10/15-163550/en/>

<http://nhrc.nic.in/Documents/Reports/Special%20Report%20To%20Parliament%20of%20India%20On%20Silicosis.pdf>

<http://nhrc.nic.in/silicosis.htm>

38 Consider the following statements.

Assertion (A): Keynesians reject the effectiveness of a fiscal stimulus in reviving the market.

Reason (R): Keynesians believe that investment depends solely on the rate of interest.

- In the context of the above, which of these is correct?
 - A. A is correct, and R is an appropriate explanation of A.
 - B. A is correct, but R is not an appropriate explanation of A.
 - C. A is correct, but R is incorrect.
 - D. Both A and R are incorrect. ✓

- Your Answer : D
- Correct Answer : D

◦ **Answer Justification :**

Justification: Keynesian economists often argue that private sector decisions sometimes lead to inefficient macroeconomic outcomes which require active policy responses by the public sector, in particular, monetary policy actions by the central bank and fiscal policy actions by the government, in order to stabilize output over the business cycle.

Keynesians believe that investment does not depend solely on the rate of interest but on various factors such as investor's expectations, market conditions, return on capital etc. In the absence of state intervention, investment may fluctuate erratically. This may cause aggregate demand to go down and reduce economic growth and employment.

So, Keynesian economics advocates a mixed economy – predominantly private sector, but with a role for government intervention during recessions.

Q Source: Improvisation: Page 6: 12th Macroeconomics NCERT

39 Consider the following statements.

1. Warm ocean currents generally originate near sub-tropical regions and move towards equator.
 2. The cold currents carry water from polar or higher latitudes to lower latitudes.
 3. The areas where the warm and cold currents meet are devoid of nutrient cycling and thus generally poor in fisheries.
- Select the correct answer using the codes below.
 - A. 1 and 2 only



- B. 2 only ✓
- C. 1 and 3 only
- D. 1, 2 and 3

- Your Answer : B
- Correct Answer : B

◦ **Answer Justification :**

Justification: Statement 1 and 2: Generally, the warm ocean currents originate near the equator and move towards the poles. So, 1 is wrong.

- The cold currents carry water from polar or higher latitudes to tropical or lower latitudes. So, 2 is correct.
- The Labrador Ocean current is cold current while the Gulf Stream is a warm current.
- The ocean current influence the temperature conditions of the area. Warm currents bring about warm temperature over land surface, and the opposite is also true.

Statement 3: They are the best fishing grounds due to recycling of nutrients. Seas around Japan and the eastern coast of North America are such examples. The areas where a warm and cold current meet also experience foggy weather making it difficult for navigation.

Q Source: Concepts of Ocean currents covered in previous tests

40 'Total Factor Productivity (TFP)' of an economy can improve in which of these ways?

1. Increasing the area of cultivable land
2. Investing in research and development (R&D)
3. Gross Capital Formation (GCF)

- Select the correct answer using the codes below.
 - A. 1 and 2 only ✗
 - B. 2 and 3 only ✓
 - C. 3 only
 - D. 1, 2 and 3

- Your Answer : A
- Correct Answer : B

◦ **Answer Justification :**

Justification: If a nation has the same stock of land, labour and capital, and yet it achieves high rates of GDP growth consistently. If inputs are same, how does output increase over time?



Either the individual productivities of factors would have increased, or the total combined productivity of the economy has increased.

This can happen either by better technology, better infrastructure etc that improve the total factor productivity of the economy. Suppose, now a factory requires 10 hours to produce a good. With better techniques of production, the same can be achieved in 2 hours and the company can produce than ever before.

This TFP is called as the part of the output not explained by the change in inputs.

Q Source: Additional Research: Chapter 2: 12th Macroeconomics NCERT

41 Which of the following is NOT an instance of an exercise of a fundamental right?

- A. Workers from Bihar go to the Punjab to work on the farms
- B. Christian missions set up a chain of missionary schools
- C. Men and women government employees get the same salary
- D. Parents' property is inherited by their children ✓

- Your Answer : D
- Correct Answer : D

◦ **Answer Justification :**

Justification: Option A: This is an exercise of Article 19 i.e. freedom of expression of movement.

Option B: This is an exercise of religious freedom.

Option C: You can base this on three rights.

Article 15 of the constitution states that no person shall be discriminated on the basis of religion, race, caste, sex or place of birth.

Article 16 of the constitution lays down that the State cannot discriminate against anyone in the matters of employment.

Article 14 of the constitution guarantees that all people shall be equally protected by the laws of the country. It means that the State will treat people in the same circumstances alike. This article also means that individuals, whether citizens of India or otherwise shall be treated differently if the circumstances are different.

Option D: Right to property is a legal and not a constitutional right.

Q Source: Chapter on Rights: 11th NCERT: Political Theory

42 Consider the following statements about the geography of India.

1. North-south extent of India from Kashmir to Kanyakumari is close to 4,000 km.
2. East-west extent of India from Arunachal Pradesh to Kuchchh is nearly 2,000 km.



3. From south to north, India extends nearly 30 degrees in latitude.
4. From West to east, India extends nearly 20 degrees in latitude.

◦ Select the correct answer using the codes below.

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

◦ Your Answer : B

◦ Correct Answer : B

◦ **Answer Justification :**

Justification: You need to know these important little details about India's geography.

From south to north, India extends between 8°4'N and 37°6'N latitudes. From west to east, India extends between 68°7'E and 97°25'E longitudes.

So, the north-south extent from Kashmir to Kanyakumari is about 3,200 km. And the east-west extent from Arunachal Pradesh to Kuchchh is about 2,900 km.

Q Source: Page 47: NCERT 6th Geography: The Earth Our Habitat

43 Consider the following statements.

1. 'Samagra Shiksha' is an integrated Scheme for school education extending support to States from pre-school to senior secondary levels.
2. Integrated Child Development Service (ICDS) seeks to provide young children with health care and pre-school education, among other services.
3. The principal target of the Saakshar Bharat programme is to impart functional literacy to non-literate adults in the age group of 15 years and beyond.
4. Anganwadi Centres (AWCs) take care of not only supplementary nutrition but also provide immunisation services and health check-ups to women and children.

◦ Select the correct answer using the codes below.

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

◦ Your Answer : D

◦ Correct Answer : D

◦ **Answer Justification :**

Justification: Statement 1: The Union Minister for Human Resource Development recently launched the 'Samagra Shiksha' - an integrated Scheme for school education extending support to States from pre-school to senior secondary levels for the first time.



The Scheme is a paradigm shift in the conceptual design of school education by treating 'school' holistically as a continuum from pre-school, primary, upper primary, secondary and senior secondary levels.

This will enable reaping the benefits of technology and widening the access of good quality education across all States and UTs and across all sections of the Society.

Statement 2: ICDS is one of the flagship initiatives of Govt. of India that is being implemented in the state by WCD Dept.

ICDS seeks to provide young children with an integrated package of services such as supplementary nutrition, health care and pre-school education.

ICDS programme seeks to provide all basic essential services to children and mothers in an integrated manner right in their villages or wards. Gradually, the scheme has been expanded to urban slums and to rural and tribal blocks.

Statement 3: Saakshar Bharat Programme goes beyond '3' R's (i.e. Reading, Writing & Arithmetic) ; for it also seeks to create awareness of social disparities and a person's deprivation on the means for its amelioration and general well being.

- This programme was formulated in 2009 with the objective of achieving 80% literacy level at national level, by focusing on adult women literacy seeking - to reduce the gap between male and female literacy to not more than 10 percentage points.
- It has four broader objectives, namely imparting functional literacy and numeracy to non-literates; acquiring equivalency to formal educational system; imparting relevant skill development programme; and promote a learning society by providing opportunities for continuing education.
- The principal target of the programme is to impart functional literacy to 70 million non-literate adults in the age group of 15 years and beyond. This Includes coverage of 14 million Scheduled Castes(SCs), 8 million Scheduled Tribes(STs), 12 million minorities & 36 million others. The overall coverage of women is aimed at 60 million. 410 districts belonging to 27 States/UTs of the country were identified to be covered under Saakshar Bharat.
- Eligibility criteria for coverage under Saakshar Bharat. - A district, including a new district carved out of an erstwhile district that had adult female literacy rate of 50 per cent or below, as per 2001 census, were considered eligible for coverage under the Saakshar Bharat programme. In addition, all left wing extremism-affected districts, irrespective of their literacy rate, were also eligible for coverage under the programme. There were 365 districts in the country that had adult female literacy rate of 50 per cent or below.

Statement 4: Anganwadi is a type of rural mother and child care centre in India. They were started by the Indian government in 1975 as part of the Integrated Child Development Services program to



combat child hunger and malnutrition.

They provide a package of six services—supplementary nutrition, referral services, immunisation, health check-up, pre-school non-formal education and health and nutrition education— to women and children.

Q Source: Additional Research:

<http://www.insightsonindia.com/2018/08/04/insights-daily-current-affairs-04-august-2018/>

<http://pib.nic.in/newsite/PrintRelease.aspx?relid=179528>

44 Which of these constitutional provisions can be amended by a simple majority?

1. Salaries and allowances of the members of Parliament
2. Privileges of the Parliament and its members
3. Directive Principles of State Policy
4. Citizenship—acquisition and termination

◦ Select the correct answer using the codes below.

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

◦ Your Answer : A

◦ Correct Answer : A

◦ **Answer Justification :**

Justification: A number of provisions in the Constitution can be amended by a simple majority of the two Houses of Parliament outside the scope of Article 368.

These provisions include:

- **States:** Admission or establishment of new states; Formation of new states and alteration of areas, boundaries or names of existing states; Abolition or creation of legislative councils in states.
- **Privileges and Parliament:** Second Schedule—emoluments, allowances, privileges and so on of the president, the governors, the Speakers, judges, etc; Quorum in Parliament; Salaries and allowances of the members of Parliament; Rules of procedure in Parliament; Privileges of the Parliament, its members and its committees; Use of English language in Parliament.
- **Supreme Court:** Number of puisne judges in the Supreme Court; Conferment of more jurisdiction on the Supreme Court.



- Use of official language.
- Citizenship—acquisition and termination.

The provisions which can be amended by special majority includes: (i) Fundamental Rights; (ii) Directive Principles of State Policy; and (iii) All other provisions which are not covered by simple and special majority with consent of states.

Q Source: Chapter 10: Indian Polity: M Laxmikanth

45 With reference to the National Achievement Survey (NAS), consider the following statements.

1. It was one of the biggest education surveys conducted throughout India for secondary school competency levels in government and government aided schools.
 2. The competency based test questions in NAS developed reflected the Learning Outcomes which were recently incorporated in the Central Rules for Right to Education (RTE) Act.
 3. NAS survey methodology avoids the use of subjective questionnaires for teachers and schools, which is central to the Annual Status of Education Report (ASER), to instil greater objectivity in testing.
 4. The survey was conducted entirely by the Government of India without the engagement of third party agencies.
- Select the correct answer using the codes below.
 - A. 1, 2 and 3 only
 - B. 1, 2 and 4 only
 - C. 3 and 4 only
 - D. 2 only ✓
 - Your Answer : D
 - Correct Answer : D
 - **Answer Justification :**

Justification: Statement 1: It was conducted throughout the country on November 13, 2017 for Classes 3, 5 and 8 in government and government aided schools. The survey tools used multiple test booklets with 45 questions in Classes III and V and 60 questions in Class VIII in Mathematics, Language, Environmental Sciences, Sciences and Social Sciences.

Statement 2: The competency based test questions developed reflected the Learning Outcomes which were recently incorporated in the Central Rules for RTE Act by the Government of India. Along with the test items, questionnaires pertaining to students, teachers and schools were also used.

This is the Largest Assessment survey conducted in the country and is amongst the largest conducted in the world. The attainment of the competency based learning outcomes of 2.2 million students from 1, 10, 000 schools across 700 districts in all 36 States/UTs were assessed.

Statement 3 and 4: NAS is a transparent and credible exercise done under third party verification.



Along with the test items, questionnaires pertaining to students, teachers and schools were also used.

A web based application has been developed for generating the district wise learning report cards to reflect the disaggregated and detailed learning levels. The District Report Cards contain various sections, including indicating the lowest performing area in Learning Outcomes. The district data is released to the States and UTs for seeking their comments.

Q Source: <http://pib.nic.in/newsite/PrintRelease.aspx?relid=173462>

Additional Research:

<http://www.insightsonindia.com/2018/08/04/insights-daily-current-affairs-04-august-2018/>

46 Consider the following statements.

1. Alternative Investment Funds (AIFs) in India invest in Hedge funds, Mutual funds or Collective Investment Schemes.
2. The objective of National Investment and Infrastructure Fund II ('Strategic Fund') is to invest largely in equity and equity-linked instruments.
3. Most AIFs in India are government owned or government contributes a majority share of these AIFs.

◦ Select the correct answer using the codes below.

- A. 1 and 2 only
- B. 1 and 3 only ✗
- C. 2 only ✓
- D. 2 and 3 only

◦ Your Answer : B

◦ Correct Answer : C

◦ **Answer Justification :**

Justification: Statement 1 and 3: Alternative Investment Fund or AIF means any fund established or incorporated in India which is a privately pooled investment vehicle which collects funds from sophisticated investors, whether Indian or foreign, for investing it in accordance with a defined investment policy for the benefit of its investors.

Anything alternate to traditional form of investments gets categorized as alternative investments. Now, what is considered as traditional may vary from country to country.

Generally, investments in stocks or bonds or fixed deposits or real estates are considered as traditional investments.

In India, alternative investment funds (AIFs) are defined in Regulation 2(1)(b) of Securities and Exchange Board of India (Alternative Investment Funds) Regulations, 2012.

Thus, the definition of AIFs includes venture Capital Fund, hedge funds, private equity funds, commodity funds, Debt Funds, infrastructure funds, etc., while, it excludes Mutual funds or



collective investment Schemes, family trusts.

Hence, in India, AIFs are private funds which are otherwise not coming under the jurisdiction of any regulatory agency in India.

Read these FAQs for more information

https://www.sebi.gov.in/sebi_data/attachdocs/1471519155273.pdf

Statement 2: As on date, three funds have been established by the Government under the NIIF platform and registered with SEBI as Category II Alternative Investment Funds and National Investment and Infrastructure Fund II ('Strategic Fund') is one of those three funds.

- The other two funds are National Investment and Infrastructure Fund (or Master Fund) and NIIF Fund of Funds - I.
- The objective of National Investment and Infrastructure Fund II ('Strategic Fund') is to invest largely in equity and equity-linked instruments. The Strategic Fund will focus on green field and brown field investments in the core infrastructure sectors.
- It will focus on green field and brown field investments in the core infrastructure sectors.

Q Source: Additional Research:

<http://www.insightsonindia.com/2018/08/04/insights-daily-current-affairs-04-august-2018/>

[http://www.arthapedia.in/index.php?title=Alternative_Investment_Funds_\(AIFs\)](http://www.arthapedia.in/index.php?title=Alternative_Investment_Funds_(AIFs))

47 The 2+2 Dialogue recently seen in news involves which of these countries as participants?

1. India
2. USA
3. China
4. Russia

◦ Select the correct answer using the codes below.

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

◦ Your Answer : B

◦ Correct Answer : B

◦ **Answer Justification :**

Justification: The new dialogue format was agreed to between the two sides during the visit of Prime Minister Narendra Modi to Washington D.C. in June, 2017.



The dialogue mechanism includes defence and foreign ministers of the two countries.

It replaced India-U.S. Strategic and Commercial Dialogue for trade and commercial issues.

Significance of "2 by 2" Dialogue:

The objective of this dialogue mechanism is to raise defence and security issues to the forefront and centre of the relationship between India and the U.S.

It is aimed at enhancing peace and stability across the Indo-Pacific region by elevating strategic consultations in the dialogue.

The shared priorities include job creation, improving the business and investment climate and sustaining a rules-based global order.

The U.S. has strategic consultations in this format with key partners and allies including Australia, Japan and the Philippines.

The inaugural U.S.-India 2+2 Dialogue will take place in the month of July.

Q Source: <http://www.insightsonindia.com/2018/06/23/insights-daily-current-affairs-22-june-2018/>

48 Jet planes flying in the sky leave a white trail for the same reason that

- A. The eye of Cyclones remain quiet
- B. Automobiles exhaust polluted particles
- C. You can see your breath ✓
- D. Air pressure reduces in the hilly areas with increasing altitude

- Your Answer : C
- Correct Answer : C

◦ **Answer Justification :**

Learning: Jets leave white trails, or contrails, in their wakes for the same reason you can sometimes see your breath.

The hot, humid exhaust from jet engines mixes with the atmosphere, which at high altitude is of much lower vapor pressure and temperature than the exhaust gas.

The water vapor contained in the jet exhaust condenses and may freeze, and this mixing process forms a cloud very similar to the one your hot breath makes on a cold day.

Jet engine exhaust contains carbon dioxide, oxides of sulfur and nitrogen, unburned fuel, soot and metal particles, as well as water vapor. The soot provides condensation sites for the water vapor. Any particles present in the air provide additional sites.

Q Source: Chapter 3 (last page): 7th NCERT: Geography



49 If the earth starts rotating east to west, which of the following shall be correct?

1. Places West of Greenwich will be behind the Greenwich Time.
2. Places located on the same longitude northwards will be ahead in time than those located southwards.

◦ Which of the above is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. None ✓

◦ Your Answer : D

◦ Correct Answer : D

◦ **Answer Justification :**

Justification: Statement 1: It is the case presently when earth rotates from west to east. If the opposite happens, places west of Greenwich will be ahead in time and places east will lag behind in time.

Statement 2: Time varies across a longitude, not latitude.

For e.g. when the Prime Meridian of Greenwich has the sun at the highest point in the sky, all the places along this meridian will have mid-day or noon, whether the place is southwards or northwards.

This is independent of the direction of rotation of the earth. So, 2 is incorrect.

Q Source: Page 15: NCERT 6th Geography: The Earth Our Habitat

50 The Startup Academia Alliance aims to

1. Fund technology based start-ups
2. Reduce the gap between scientific research and its industrial applications

◦ Which of the above is/are correct?

- A. 1 only
- B. 2 only ✓
- C. Both 1 and 2 ✗
- D. None

◦ Your Answer : C

◦ Correct Answer : B

◦ **Answer Justification :**

Justification: To fulfill the Government of India's mission to promote the spirit of entrepreneurship in the country, Startup India launched the Startup Academia Alliance programme, a unique mentorship opportunity between academic scholars and startups working in similar domains.



The Startup Academia Alliance aims to reduce the gap between scientific research and its industrial applications in order to increase the efficacy of these technologies and to widen their impact.

By creating a bridge between academia and industry, the Alliance strives to create lasting connections between the stakeholders of the startup ecosystem and implement the third pillar on which the Startup India Action Plan is based - Industry Academia Partnerships and Incubation.

Q Source: <http://pib.nic.in/newsite/PrintRelease.aspx?relid=181524>

51 Consider the following statements.

1. Regulating Act of 1773 designated the Governor of Bengal as the 'Governor-General of Bengal' and created an Executive Council of four members to assist him.
2. Charter Act of 1853 separated, for the first time, the legislative and executive functions of the Governor-General's council.
3. The Act of 1919 provided, for the first time, for the association of Indians with the executive Councils of the Viceroy and Governors.

◦ Select the correct answer using the codes below.

- A. 1 and 2 only ✓
- B. 2 and 3 only ✗
- C. 1 and 3 only
- D. 1 only

◦ Your Answer : B

◦ Correct Answer : A

◦ **Answer Justification :**

Justification: Statement 1: The first such Governor-General was Lord Warren Hastings.

- It made the governors of Bombay and Madras presidencies subordinate to the governor general of Bengal, unlike earlier, when the three presidencies were independent of one another.
- It provided for the establishment of a Supreme Court at Calcutta (1774) comprising one chief justice and three other judges.
- It prohibited the servants of the Company from engaging in any private trade or accepting presents or bribes from the 'natives'.
- It strengthened the control of the British Government over the Company by requiring the Court of Directors (governing body of the Company) to report on its revenue, civil, and military affairs in India.



Statement 2: Charter Act of 1853 was the last of the series of Charter Acts passed by the British Parliament between 1793 and 1853. It was a significant constitutional landmark.

It separated, for the first time, the legislative and executive functions of the Governor-General's council. It provided for addition of six new members called legislative councillors to the council.

It extended the Company's rule and allowed it to retain the possession of Indian territories on trust for the British Crown. But, it did not specify any particular period, unlike the previous Charters.

This was a clear indication that the Company's rule could be terminated at any time the Parliament liked.

It introduced, for the first time, local representation in the Indian (Central) Legislative Council. Of the six new legislative members of the governor-general's council, four members were appointed by the local (provincial) governments of Madras, Bombay, Bengal and Agra.

Statement 3: Act of 1909 did this.

It considerably increased the size of the legislative councils, both Central and provincial.

It retained official majority in the Central Legislative Council but allowed the provincial legislative councils to have non-official majority.

It enlarged the deliberative functions of the legislative councils at both the levels. For example, members were allowed to ask supplementary questions, move resolutions on the budget, and so on.

It provided (for the first time) for the association of Indians with the executive Councils of the Viceroy and Governors. Satyendra Prasad Sinha became the first Indian to join the Viceroy's Executive Council. He was appointed as the law member.

Q Source: Chapter 1: Indian Polity: M Laxmikanth

52 Article 28 distinguishes between four types of educational institutions on the basis of ownership or aid. Religious instruction is completely prohibited in which of these types of educational institutions

1. Institutions wholly maintained by the State.
2. Institutions administered by the State but established under any endowment or trust.
3. Institutions recognised by the State.
4. Institutions receiving aid from the State.

◦ Select the correct answer using the codes below.

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

◦ Your Answer : C

◦ Correct Answer : C

◦ **Answer Justification :**



Justification: Under Article 28, no religious instruction shall be provided in any educational institution wholly maintained out of State funds. However, this provision shall not apply to an educational institution administered by the State but established under any endowment or trust, requiring imparting of religious instruction in such institution.

Further, no person attending any educational institution recognised by the State or receiving aid out of State funds shall be required to attend any religious instruction or worship in that institution without his consent. In case of a minor, the consent of his guardian is needed.

Thus, Article 28 distinguishes between four types of educational institutions:

- (a) Institutions wholly maintained by the State.
- (b) Institutions administered by the State but established under any endowment or trust.
- (c) Institutions recognised by the State.
- (d) Institutions receiving aid from the State.

In (a) religious instruction is completely prohibited while in (b), religious instruction is permitted. In (c) and (d), religious instruction is permitted on a voluntary basis.

Q Source: Chapter 7: Indian Polity: M Laxmikanth

53 The metaphorical "invisible hand" in Economics is used to refer to

- 1. Forces of free market
 - 2. Socialist orientation of state
 - 3. Public private partnership
- Select the correct answer using the codes below.
 - A. 1 only ✓
 - B. 2 and 3 only
 - C. 1 and 3 only
 - D. 2 only
 - Your Answer : A
 - Correct Answer : A

◦ **Answer Justification :**

Justification: Classical economists observe that markets generally regulate themselves, when free of coercion. Adam Smith referred to this as a metaphorical "invisible hand," which moves markets toward their natural equilibrium.

So, classical thought is also known as the non-interventionist school. As per them, markets function best without government interference.

In contrast to classical economics, Keynesian economics supports policies such as government intervention, deficit spending, control of the money supply, and a progressive income tax to counter

recession and income inequality.

Q Source: Page 5: 12th Macroeconomics NCERT

54 Which of these European capital cities lies northernmost on a global map?

- A. Oslo 
- B. Copenhagen
- C. Brussels
- D. Prague

- Your Answer : A
- Correct Answer : A

◦ **Answer Justification :**

Justification: This was an easy question, because Norway's capital Oslo can easily be guessed as the northernmost capital.



Q Source: Europe map

55 Consider the following statements.

1. The major objective of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) is to achieve convergence of investments in irrigation at the field level and expand cultivable area under assured irrigation.
2. A Long Term Irrigation Fund (LTIF) has been established under the Ministry of Agriculture and Farmer's Welfare for funding of Central and State share for the identified ongoing projects under PMKSY.
3. One of the primary objectives of the National Water Development Agency (NWDA) is to prepare



National Perspective Plans (NPP) for inter-linking rivers to reduce water shortage.

◦ Select the correct answer using the codes below.

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

◦ Your Answer : A

◦ Correct Answer : C

◦ **Answer Justification :**

Justification: Statement 1: It also intends to improve on-farm water use efficiency to reduce wastage of water and enhance the adoption of precision-irrigation and other water saving technologies (More crop per drop).

The scheme will be implemented by Ministries of Agriculture, Water Resources and Rural Development.

PMKSY has been conceived amalgamating ongoing schemes viz. Accelerated Irrigation Benefit Programme (AIBP) of the Ministry of Water Resources, River Development & Ganga Rejuvenation (MoWR, RD & GR), Integrated Watershed Management Programme (IWMP) of Department of Land Resources (DoLR) and the On Farm Water Management (OFWM) of Department of Agriculture and Cooperation (DAC).

Statement 2: To cater to the large fund requirement and ensure completion of the projects, the Union Finance Minister, during his Budget speech 2016-17, announced creation of dedicated Long Term Irrigation Fund (LTIF) in NABARD with an initial corpus of Rs. 20,000 crore for funding of Central and State share for the identified ongoing projects under PMKSY (AIBP and CAD).

Corpus would be raised by way of budgetary resources and market borrowings to fund fast tracking of implementation of incomplete major & medium irrigation projects.

Statement 3: The National Water Development Agency (NWDA), was set up in July 1982 as Autonomous Society under the societies registration act 1860, to carry out the water balance and other studies on a scientific and realistic basis for optimum utilization of water resources of the Peninsular river system for preparation of feasibility reports and thus to give concrete shape to Peninsular river development component of National perspective plan prepared by Central Water Commission and the then Ministry of Irrigation (now MoWR, RD & GR).

Q Source: Additional Research:

<http://www.insightsonindia.com/2018/08/08/insights-daily-current-affairs-08-august-2018/>

<http://www.nwda.gov.in/content/innerpage/click-more.php>

56 Consider the following statements.

1. Mica is most commonly found in sedimentary rocks.



2. Silicon and oxygen are common elements in all types of feldspar.
3. Quartz is an important component of sand and granite.
4. Pyroxene, which forms nearly one tenth of the earth's crust, is commonly found in meteorites.

◦ Select the correct answer using the codes below.

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

◦ Your Answer : B

◦ Correct Answer : B

◦ **Answer Justification :**

Justification: Statement 1: Mica comprises of potassium, aluminium, magnesium, iron, silica etc. It forms 4 per cent of the earth's crust. It is commonly found in igneous and metamorphic rocks. It is used in electrical instruments.

Statement 2: Silicon and oxygen are common elements in all types of feldspar and sodium, potassium, calcium, aluminium etc. are found in specific feldspar variety. Half of the earth's crust is composed of feldspar. It has light cream to salmon pink colour. It is used in ceramics and glass making.

Statement 3: Quartz is one of the most important components of sand and granite. It consists of silica. It is a hard mineral virtually insoluble in water. It is white or colourless and used in radio and radar.

Statement 4: Pyroxene consists of calcium, aluminum, magnesium, iron and silica. Pyroxene forms 10 per cent of the earth's crust. It is commonly found in meteorites. It is in green or black colour.

Q Source: Chapter 5: 11th NCERT Fundamentals of Physical Geography

57 Throughout the Phanerozoic history of the Earth, the planet's climate has been fluctuating between two dominant climate states which are

- A. The greenhouse Earth and the icehouse Earth ✓
- B. Glacial and non-glacial periods ✗
- C. High carbon and low-carbon periods
- D. Australopithecine and non- Australopithecine periods

◦ Your Answer : B

◦ Correct Answer : A

◦ **Answer Justification :**

Learning: These two climate states last for millions of years and should not be confused with glacial and interglacial periods, which occur only during an icehouse period and tend to last less



than 1 million years.

There are five known great glaciations in Earth's climate history; the main factors involved in changes of the paleoclimate are believed to be the concentration of atmospheric carbon dioxide, changes in the Earth's orbit, and oceanic and orogenic changes due to tectonic plate dynamics. Greenhouse and icehouse periods have profoundly shaped the evolution of life on Earth.

A "greenhouse Earth" or "hothouse Earth" is a period in which there are no continental glaciers whatsoever on the planet, the levels of carbon dioxide and other greenhouse gases (such as water vapor and methane) are high, and sea surface temperatures (SSTs) range from 28 °C (82.4 °F) in the tropics to 0 °C (32 °F) in the polar regions.

An "icehouse Earth" is the earth as it experiences an ice age. Unlike a greenhouse Earth, an icehouse Earth has ice sheets present, and these sheets wax and wane throughout times known as glacial periods and interglacial periods.

During an icehouse Earth, greenhouse gases tend to be less abundant, and temperatures tend to be cooler globally. The Earth is currently in an icehouse stage,[5] as ice sheets are present on both poles and glacial periods have occurred at regular intervals over the past million years.

Q Source: Additional Research:

<https://www.thehindu.com/todays-paper/tp-life/ten-ways-the-planet-could-tip-into-hothouse-earth/article24627997.ece>

58 Which of the following recent evidences found on Mars indicate to a possibility of water flowing on the planet?

1. Signatures of hydrated minerals on slopes of Martian hills
2. Spectral characteristics consistent with chloride minerals deposits on Mars

◦ Which of the above is/are correct?

- A. 1 only ❌
- B. 2 only
- C. Both 1 and 2 ✅
- D. None

◦ Your Answer : A

◦ Correct Answer : C

◦ **Answer Justification :**

Justification: Statement 1: Using an imaging spectrometer on MRO, researchers detected signatures of hydrated minerals on slopes where mysterious streaks are seen on the Red Planet. These darkish streaks appear to ebb and flow over time.

- They darken and appear to flow down steep slopes during warm seasons, and then fade in cooler seasons. They appear in several locations on Mars when temperatures are above minus 10 degrees Fahrenheit (minus 23 Celsius), and disappear at colder times.



- These downhill flows, known as recurring slope lineae (RSL), often have been described as possibly related to liquid water.
- The new findings of hydrated salts on the slopes point to what that relationship may be to these dark features.
- The hydrated salts would lower the freezing point of a liquid brine, just as salt on roads here on Earth causes ice and snow to melt more rapidly. Scientists say it's likely a shallow subsurface flow, with enough water wicking to the surface to explain the darkening.

Statement 2: The scientists found about 200 individual places in the Martian southern hemisphere that show spectral characteristics consistent with chloride minerals. These salt deposits occur in the middle to low latitudes all around the planet within ancient, heavily cratered terrain. The team's report appears in the March 21, 2008 issue of the scientific journal Science.

New findings from NASA's Mars Reconnaissance Orbiter (MRO) provide the strongest evidence yet that liquid water flows intermittently on present-day Mars.

Q Source: <https://themis.asu.edu/news/salt-deposits-found-martian-highlands>

<https://www.nasa.gov/press-release/nasa-confirms-evidence-that-liquid-water-flows-on-today-s-mars>

59 Net National Product (NNP) is obtained after

- A. Adding Net factor income from abroad to the Net Domestic Product (NDP) ✓
- B. Discounting depreciation from Gross Domestic Product (GDP)
- C. Adding net capital formation to Gross Domestic Product (GDP)
- D. Summing the consumption expenditures of all individuals residing within the economy

- Your Answer : A
- Correct Answer : A

◦ **Answer Justification :**

Learning: $GNP \equiv GDP + \text{Factor income earned by the domestic factors of production employed in the rest of the world} - \text{Factor income earned by the factors of production of the rest of the world employed in the domestic economy}$

Hence, $GNP \equiv GDP + \text{Net factor income from abroad}$

If we discount (reduce) depreciation from GNP the measure of aggregate income that we obtain is called Net National Product (NNP).

Q Source: Page 26: 12th Macroeconomics NCERT

60 Greenhouse gases that are present in the atmosphere due to natural activities is/are?



1. Chlorofluorocarbons
2. Methane
3. Nitrous oxide
4. Sulfur hexafluoride
5. Oxygen
6. Water vapour

◦ Select the correct answer using the codes below.

- A. 2, 4 and 5 only
- B. 2, 3 and 6 only ✓
- C. 1, 3, 4, 5 and 6 only
- D. 1, 2 and 6 only

◦ Your Answer : B

◦ Correct Answer : B

◦ **Answer Justification :**

Justification: Statement 1: CFC is a manmade gas, and so all options containing CFC will be wrong.

Statement 2: Methane is emitted by rice field, animals (digestive tracts), coal mines etc.

Statement 3: Nitrous oxide (N₂O) is produced by fertilizer use, animal waste management, fossil fuel combustion, industrial activities, soils under natural vegetation and the oceans. So, it is produced by both natural and human activities. 3 will still be correct.

Statement 4: SF₆ is an inorganic extremely potent greenhouse gas, which is an excellent electrical insulator. It is a manmade gas.

Statement 5: Oxygen (O₂) is not a GHG, ozone (O₃) is.

Statement 6: Water vapour is a very important GHG, and it is obviously natural.

Q Source: Additional Research: Page 20: Geography NCERT 7th: Our Environment

61 Hybrid regimes are most likely to be found in countries

- A. Authoritarian polity
- B. Developing countries with poor participatory governance ✓
- C. Observer states in the United Nations that are not yet recognized as a country
- D. High level of development, education and political empowerment

◦ Your Answer : B

◦ Correct Answer : B

◦ **Answer Justification :**



Learning: Hybrid regimes are found in most developing countries, especially since the end of the Cold War. They are called hybrid because they combine democratic traits (e.g., frequent and direct elections) with autocratic ones (e.g., political repression).

It is also called as an illiberal democracy, a partial democracy, low intensity democracy, or empty democracy. This is because it is a governing system in which, although elections take place, citizens are cut off from knowledge about the activities of those who exercise real power because of the lack of civil liberties.

It is not an "open society". There are many countries "that are categorized as neither 'free' nor 'not free', but as 'probably free', falling somewhere between democratic and nondemocratic regimes".

This may be because a constitution limiting government powers exists, but those in power ignore its liberties, or because an adequate legal constitutional framework of liberties does not exist.

The Russian Federation under Vladimir Putin has also been described as an illiberal democracy. Elections take place regularly, but many foreign observers (e.g. from the OSCE) do not consider them free or fair. The rate at which journalists have been murdered in Russia shows the limits of freedom of speech; most major television networks and newspapers are state-owned or influenced by the government and openly support parties that support the government during elections.

Q Source:

<https://www.thehindu.com/opinion/op-ed/thirty-years-after-the-8888-uprising/article24617719.ece>

<http://www.oxfordbibliographies.com/view/document/obo-9780199756223/obo-9780199756223-0167.xml>

62 The Havana Charter led to the establishment of which of the following organizations?

- A. International Trade Organization (ITO)
- B. UNESCO
- C. Food and Agricultural organization (FAO)
- D. World Intellectual Property Organization (WIPO)

- Your Answer :
- Correct Answer : A

◦ **Answer Justification :**

Learning: The Bretton Woods Conference of 1944, which established an international institution for monetary policy, recognized the need for a comparable international institution for trade to complement the International Monetary Fund and the World Bank.

Formally called the "Final Act of the United Nations Conference on Trade and Employment"), the Havana charter provided for the establishment of the ITO, and set out the basic rules for international trade and other international economic matters.

It was signed by 56 countries on March 24, 1948.



Until the creation of the World Trade Organization in 1994, international trade was managed through the General Agreement on Tariffs and Trade (GATT).

Q Source:

<https://www.thehindu.com/todays-paper/tp-opinion/the-problem-at-the-wto/article24610569.ece>

63 What is the “Green corridor project” that is recently being pushed by state governments?

- A. A project for responding to climate change by a combination of adaptation and mitigation measures including carbon sequestration.
- B. A dedicated State Investment and Manufacturing Zone (SIMZ) for establishment of “Green Energy” companies and services
- C. A project for evacuation of renewable energy from generation points to the load centres by creating intrastate and inter-state transmission infrastructure. ✓
- D. A project for protecting, restoring and enhancing India’s diminishing forest cover by establishing inter-state buffer protected areas ✗

- Your Answer : D
- Correct Answer : C

◦ **Answer Justification :**

Justification: Green Energy Corridor Project aims at synchronising electricity produced from renewable sources, such as solar and wind, with conventional power stations in the grid.

- The government has taken lessons from the massive power grid failure that hit the North, East and North-East regions of the country in 2012.
- Germany, who has expertise in making smart grids that integrate renewable energy into national grid will be assisting India in this project.
- The intra-state transmission component of the project is being implemented by the respective states and the Power Grid Corporation of India (PGCIL) is implementing inter-state component.

Learning: PGCIL is setting up the first corridor connecting states rich in renewable energy.

- A second corridor would connect the solar parks in Andhra Pradesh, Madhya Pradesh, Karnataka, Rajasthan and Gujarat.
- The problem of voltage fluctuation in integrating conventional grids with renewable energy grids would be taken care of by the German technology and support.



Q Source: Frequently in news

64 Atmosphere is held around the earth due to

- A. Earth's magnetic core
- B. Corona discharge from the Sun
- C. Gravitational pull of the earth ✓
- D. Presence of clouds in the troposphere and other layers above it

- Your Answer : C
- Correct Answer : C

◦ **Answer Justification :**

Justification: Celestial bodies like Moon don't have an atmosphere because their gravity isn't enough to hold the atmosphere together with the body.

Since gravity is low, and gases are lighter, they escape from the celestial body.

This is not the case with earth, where gravitation is high enough to hold the gases together. Escape velocity of gases on earth is much higher than that on some other celestial bodies like Moon.

Learning: Atmosphere also protects us from the harmful rays and scorching heat of the sun. It consists of a number of gases, dust and water vapour.

The changes in the atmosphere produce changes in the weather and climate.

Q Source: Page 3: Geography NCERT 7th: Our Environment

65 Section 8 in the Right To Information Act, 2005 pertains to

- A. Exemption from disclosure of information ✓
- B. Rights of the Public Information Officers (PIOs)
- C. Rights of the ordinary citizens with regards to information retrieval
- D. International disclosure of information produced in India

- Your Answer : A
- Correct Answer : A

◦ **Answer Justification :**

Learning: The section says that:

Notwithstanding anything contained in this Act, there shall be no obligation to give any citizen—

(a) information, disclosure of which would prejudicially affect the sovereignty and integrity of India, the security, strategic, scientific or economic interests of the State, relation with foreign State or lead to incitement of an offence;




- (b) information which has been expressly forbidden to be published by any court of law or tribunal or the disclosure of which may constitute contempt of court;
- (c) information, the disclosure of which would cause a breach of privilege of Parliament or the State Legislature;
- (d) information including commercial confidence, trade secrets or intellectual property, the disclosure of which would harm the competitive position of a third party, unless the competent authority is satisfied that larger public interest warrants the disclosure of such information;
- (e) information available to a person in his fiduciary relationship, unless the competent authority is satisfied that the larger public interest warrants the disclosure of such information;
- (f) information received in confidence from foreign government;
- (g) information, the disclosure of which would endanger the life or physical safety of any person or identify the source of information or assistance given in confidence for law enforcement or security purposes;
- (h) information which would impede the process of investigation or apprehension or prosecution of offenders;
- (i) cabinet papers including records of deliberations of the Council of Ministers, Secretaries and other officers: Provided that the decisions of Council of Ministers, the reasons thereof, and the material on the basis of which the decisions were taken shall be made public after the decision has been taken, and the matter is complete, or over: Provided further that those matters which come under the exemptions specified in this section shall not be disclosed;

Q Source: Section 8 is frequently in news

66 Consider the following statements about the Quit India movement.

1. It was started by Mahatma Gandhi following a resolution passed in 1942 in Wardha.
2. After the movement started, the Congress was declared an unlawful association, leaders were arrested and its offices all over the country were raided and their funds were frozen.
3. Mahatma Gandhi was imprisoned during the movement.

◦ Select the correct answer using the codes below.

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

- Your Answer : D
- Correct Answer : D

◦ **Answer Justification :**

Justification: It was started in 1942 by Gandhi but it drew protests from the All-India Congress Committee demanding what Gandhi called was "An Orderly British Withdrawal" from India. This



forced the British to act immediately and soon all the senior INC leaders were imprisoned without trial within hours of Gandhi's speech.

On 14th July 1942, the Congress Working Committee at Wardha had passed a resolution demanding complete independence from the British government. On August 8, 1942, Mahatma Gandhi made a Do or Die call in his Quit India speech which was delivered in Bombay at the Gowalia Tank Maidan.

Even though the speech caused some turmoil within the party and even leaders like Jawaharlal Nehru and Maulana Azad were apprehensive and critical of the call, but backed it and stuck with Gandhi's leadership until the end.

Several national leaders like Mahatma Gandhi, Abdul Kalam Azad, Jawaharlal Nehru and Sardar Vallabhbhai Patel were arrested.

The Congress was declared an unlawful association, leaders were arrested and its offices all over the country were raided and their funds were frozen.

The first half of the movement was peaceful with demonstrations and processions. The peaceful protest was carried till Mahatma Gandhi's release.

The second half of the movement was violent with raids and setting fire at post offices, government buildings and railway stations. Lord Linlithgow adopted the policy of violence.

The Viceroy's Council of Muslims, Communist Party and Americans supported Britishers.

Q Source:

<http://www.insightsonindia.com/2018/08/10/insights-daily-current-affairs-10-august-2018/>

67 Global Innovation Index (GII) is released by

- A. Cornell University
- B. INSEAD
- C. World Intellectual Property Organisation (WIPO) ✗
- D. All of the above jointly ✓

- Your Answer : C
- Correct Answer : D

◦ **Answer Justification :**

Learning: GII ranks 126 economies based on 80 indicators.

- The GII 2018 marks the 11th edition of the GII, and the beginning of its second decade providing data and insights gathered from tracking innovation across the globe.
- This year's edition, is dedicated to the theme of Energizing the World with Innovation. It analyses the energy innovation landscape of the next decade and identifies possible



breakthroughs in fields such as energy production, storage, distribution, and consumption.

- It also looks at how breakthrough innovation occurs at the grassroots level and describes how small-scale renewable systems are on the rise.

Performance of India:

- This year, India has moved up 3 places as compared to 60th rank in GII 2017 and emerged as top-ranked economy in Central and South Asia. It has consistently moving up on global ranking from 81st in 2015 to 57th this year.
- India is a top performer in the lower middle income group, where it is ranked at fifth position. It is the most innovative country in its region of central and southern Asia.
- In the indicators that capture the quality of innovation inputs and outputs, India is ranked second after China in the lower and upper middle income group combined.
- However, India has fared badly on indicators such as ease of starting business, political stability and safety, overall education and environmental performance.
- Performance of other countries:
 - Switzerland is at the top. Since 2011, Switzerland has been ranked at the top every year.

Q Source:

<http://www.insightsonindia.com/2018/08/10/insights-daily-current-affairs-10-august-2018/>

68 Cane-based ethanol can be produced three different ways — directly from cane juice, from B-grade and C-grade molasses. The measure of making ethanol from B-heavy molasses and cane juice would be helpful in which of the following ways?

1. It would allow the possibility of a reduction in sugar surpluses thus indirectly supporting sugar prices.
 2. It would lead to total deregulation of the price of B-Heavy Molasses.
- Which of the above is/are correct?
 - A. 1 only ✓
 - B. 2 only
 - C. Both 1 and 2
 - D. None ✗

◦ Your Answer : D



◦ Correct Answer : A

◦ **Answer Justification :**

Background: Diverting sugarcane juice for directly making ethanol is a very common practice across the world. In fact, almost all the ethanol produced in Brazil, the world's largest sugar producer, is directly made from sugarcane juice.

- In contrast, in India, because of sugar shortage and prejudices associated with the diversion of a food crop for producing fuel, this wasn't allowed for many years.
- However, with sugar production jumping by a record 12 million tonnes in the 2016-17 season to almost 32 million tonnes in the 2017-18 season on the back of newer high-yielding varieties, the issue of sugar shortage no longer appears relevant at least for the next few years.
- Further, this year's production is much higher than the annual domestic demand of 25 million tonnes. This problem of plenty has led to sugar prices crashing below the cost of production.
- Going forward, experts said that India might not see a big drop in output in the coming years and even if there is a fall, it will overturn sooner than expected.

Justification: According to industry estimates, if the entire 1.13 billion litres of ethanol was produced from B-heavy molasses instead of the current practice of producing it from C-heavy molasses, then sugar production would be approximately 11 million tonnes less because the former contains some amount of sugar in it as well.

- This fall in sugar production could go up further if ethanol is produced directly from sugarcane juice. In other words, if all the existing sugar mills with distilleries had produced ethanol from B-heavy molasses and sugarcane juice, then India's actual sugar production in 2017-18 could have been 10-11 million tonnes less — somewhere around 20-23 million tonnes, which is sufficient to meet domestic needs if opening and closing stocks are added.
- This could have kept prices at reasonable levels, without letting them fall so sharply and leading to sugarcane dues of over Rs 220 billion accruing to farmers.
- While the realisations from pure ethanol production are lower than the ones obtained from sugar and ethanol as in conventional practice, this measure (of making ethanol from B-heavy molasses and cane juice) would allow the possibility of a reduction in sugar surpluses in overproduction scenarios, thus indirectly supporting sugar prices.



Statement 2: This may not be true entirely.

The Centre this week not only raised the price of ethanol produced from C-heavy or C-grade molasses but also fixed a price for ethanol produced from B-heavy molasses and sugarcane juice for the first time.

- "B" molasses is also known as "second" molasses. It, too, is an intermediate product, obtained from boiling together "seed-sugar" and A molasses to obtain a B massecuite, which is then centrifuged to extract an additional 12% of raw sugar.
- Ethanol has been produced from C-heavy molasses, as production from the other two varieties wasn't remunerative enough in the absence of any stable policy regime.
- Further, for many years, there was restriction on directly manufacturing ethanol from sugarcane juice.

Q Source:

https://www.business-standard.com/article/economy-policy/making-ethanol-under-new-method-could-solve-india-s-sugar-surplus-problem-118062900162_1.html

69 The 2018 Environmental Performance Index (EPI) was published by

- A. World Economic Forum (WEF) ✓
- B. World Bank
- C. United Nations Sustainable Solutions Network
- D. UNEP ✗

- Your Answer : D
- Correct Answer : A

◦ **Answer Justification :**

Learning: The report finds that air quality is the leading environmental threat to public health. Now in its twentieth year, the biennial report is produced by researchers at Yale and Columbia Universities in collaboration with the World Economic Forum.

The tenth EPI report ranks 180 countries on 24 performance indicators across 10 issue categories covering environmental health and ecosystem vitality. Switzerland leads the world in sustainability, followed by France, Denmark, Malta, and Sweden.

Switzerland's top ranking reflects strong performance across most issues, especially air quality and climate protection. In general, high scorers exhibit long-standing commitments to protecting public health, preserving natural resources, and decoupling greenhouse gas (GHG) emissions from economic activity.



India and Bangladesh come in near the bottom of the rankings, with Burundi, Democratic Republic of the Congo, and Nepal rounding out the bottom five. Low scores on the EPI are indicative of the need for national sustainability efforts on a number of fronts, especially cleaning up air quality, protecting biodiversity, and reducing GHG emissions, said the researchers.

Some of the lowest-ranking nations face broader challenges, such as civil unrest, but the low scores for others can be attributed to weak governance, they note.

Q Source:

<https://www.thehindu.com/sci-tech/energy-and-environment/india-ranks-177-out-of-180-in-environmental-performance-index/article22513016.ece>

70 CHEOS, from China, was recently in news. The major objective behind the construction of the CHEOS was

- A. High resolution earth observation ✓
- B. Combating amphibian aircrafts
- C. Superconductor computation capabilities ✗
- D. Contributing to defence systems of the Indian ocean

- Your Answer : C
- Correct Answer : A

◦ **Answer Justification :**

Learning: In order to improve the comprehensive capabilities of China's earth observation system, in 2010, the Chinese government approved to implement CHEOS. China had developed Fengyun, Haiyang, Ziyuan satellite series & a constellation (composed by small satellites). These satellites has made great contributions in weather forecasting, climate variation and ocean monitoring, environment and disaster monitoring and forecasting etc.

It was part of the civilian HDEOS (High-Definition Earth Observation Satellite) program which was proposed in 2006, it received government approval and was initiated in 2010. China planned to launch six HDEOS spacecraft between 2013 and 2016.

The main goal of the HDEOS series was to provide NRT (Near-Real-Time) observations for disaster prevention and relief, climate change monitoring, geographical mapping, environment and resource surveying, as well as for precision agriculture support. The major users of the observation data will be the Ministry of Land and Resources, Ministry of Environmental Protection, and the Ministry of Agriculture.

Q Source: Recently in news

71 On the 15th August, 1947, Mahatma Gandhi did not participate in any of the Independence Day celebrations because

1. He was in Hyderabad in the areas which were torn by gruesome riots between Hindus and Muslims.
2. He did not approve of the Mountbatten plan and the Indian Independence Act 1947.



- Which of the above is/are correct?
 - A. 1 only
 - B. 2 only
 - C. Both 1 and 2 ✖
 - D. None ✔

- Your Answer : C
- Correct Answer : D

◦ **Answer Justification :**

Justification: He was in Kolkata. He was saddened by the communal violence and disheartened that the principles of ahimsa (non-violence) and satyagraha (active but non-violent resistance) that he had lived and worked for, had failed to bind the people in troubled times. Gandhiji went on to persuade the Hindus and Muslims to give up violence.

His presence in Kolkata greatly improved the situation, and the coming of independence was celebrated in a spirit of communal harmony, with joyous dancing in the streets. Gandhiji's prayer meetings attracted large crowds. But this was short lived as riots between Hindus and Muslims erupted once again and Gandhiji had to resort to a fast to bring peace.

Q Source: 15th August, 2018 celebrations

72 The term "Dual-Gap analysis" is often used by policymakers to point out

- A. Demand for investment and availability of domestic and foreign capital ✔
- B. Shortage of skilled labour in an emerging market economy
- C. Persistence of inflation despite corrective policy measures
- D. Failure of market despite pro-active state intervention in both goods and capital markets

- Your Answer :
- Correct Answer : A

◦ **Answer Justification :**

Learning: In an economy (without government interference), the following identity holds true:

$$Y = C + I + (X - M)$$

This can be alternatively expressed as: $Y - C - I = X - M$

$Y - C$ is nothing but savings. So, $S - I = X - M$

This means that an excess of investment over savings ($I > S$) must be financed by an excess of exports over imports, i.e. the inflow of foreign exchange.

The dual gap consists of two parts: (1) the savings gap — investment — savings (i.e. $I = S$); and (2) the trade gap or the difference between imports M and exports X (i.e. $M - X$). In national income



accounting, the two gaps must be identical.

If investment can be financed by domestic savings, no savings gap arises. But, if savings gap arises, there is a problem as the country must get foreign exchange to finance.

This is significant for developing economies, as it shows the limitations of domestic capital in a nation's development. They must recognize the importance of foreign exchange in their growth and development.

Q Source: Additional Research: Page 25: 12th Macroeconomics NCERT

73 Consider the following about Glaciers.

#5218

1. Glacial retreat can result in the creation of a lake.
2. Materials deposited by a retreating glacier results in glacial moraines.

◦ Which of the above is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2 ✓
- D. None

◦ Your Answer : C

◦ Correct Answer : C

◦ **Answer Justification :**

Justification: Statement 1: The material carried by the glacier such as rocks big and small, sand and silt gets deposited. These deposits form glacial moraines.

Statement 2: Glaciers movements carve out deep hollows. When they retreat and as the ice melts these hollows get filled up with water and become beautiful lakes in the mountains.

You can read all about Glaciers and their features here

<http://nationalgeographic.org/encyclopedia/glacier/>

Q Source: Additional Research: Page 16: Geography NCERT 7th: Our Environment

74 Match the following initiatives/exercises with their descriptions:

1. Maitree: All Women mountain expedition
2. Xingkong-2: A hypersonic flight vehicle
3. Manirang: Indo-Thai military exercise

◦ Select the correct answer using the codes below.

- A. 1 and 2 only
- B. 2 only ✓
- C. 1 and 3 only



D. 2 and 3 only

- Your Answer :
- Correct Answer : B

◦ **Answer Justification :**

Justification: Statement 1: Maitree 2018 was an annual joint military training exercise between India and Thailand. The 2018 edition of this exercise is being held in Thailand.

The aim of this exercise is to build and promote closer relations while exchanging skills and experiences between the two armies.

Last exercise was held in Himachal Pradesh's Bakloh in 2017.

Statement 2: Xingkong-2 is China's hypersonic "waverider" flight vehicle. It is also called Starry Sky-2.

It is capable of flying independently and of carrying nuclear warheads.

It glides at high speeds using shockwaves generated by its own hypersonic flight with the air.

Statement 3: An all-women expedition team has begun its journey to Mt. Manirang from Himachal Pradesh. The expedition commemorates the silver jubilee of 1993 Women Everest expedition. Manirang is one of the highest mountains in the Indian state of Himachal Pradesh. It lies on the border between Kinnour and Lahaul and Spiti district.

The Indo-Nepalese women's Everest expedition in 1993 was the first all women expedition, launched by Indian Mountaineering foundation. The 21-member team was led by Ms. Bachendri Pal. The historic expedition set up several world records at the time which included the largest number of persons (18) of a single expedition to climb Mount Everest, largest number of women (six) from a single country to climb Mount Everest.

Q Source:

<http://www.insightsonindia.com/2018/08/08/insights-daily-current-affairs-08-august-2018/>

75 The powers to make laws in the residuary list is vested in the

- A. Central government ✓
- B. State governments
- C. Supreme Court and High courts
- D. Rajya Sabha alone

- Your Answer : A
- Correct Answer : A

◦ **Answer Justification :**

Justification & Learning: The Constitution divided the powers between the Centre and the states



in terms of the Union List, State List and Concurrent List in the Seventh Schedule.

The Union List consists of 100 subjects, the State List 61 subjects and the Concurrent List 52 subjects. Both the Centre and the states can make laws on the subjects of the concurrent list, but in case of a conflict, the Central law prevails.

The residuary subjects (i.e., which are not mentioned in any of the three lists) are given to the Centre.

Q Source: Chapter 13: Indian Polity: M Laxmikanth

76 The Constitution establishes an independent judiciary to

1. Protect the integrity and supremacy of the Constitution
2. Settle the disputes between federal organs
3. Check abuse of authority by legislature and executive

◦ Select the correct answer using the codes below.

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

◦ Your Answer : D

◦ Correct Answer : D

◦ **Answer Justification :**

Justification: The Courts were setup for two purposes:

Statement 1 and 2: One, to protect the supremacy of the Constitution by exercising the power of judicial review; and two, to settle the disputes between the Centre and the states or between the states.

The Constitution contains various measures like security of tenure to judges, fixed service conditions and so on to make the judiciary independent of the government.

Statement 3: Via provisions like Judicial review, the judiciary checks abuse of powers by the executive and legislative organs, for e.g. exceeding jurisdiction by District Collector, or unconstitutional legislation by Parliament.

Q Source: Chapter 4 and 5: Indian Polity: M Laxmikanth

77 Consider the following statements.

1. Scheme for Infrastructure Development in Minority Institutes (IDMI) gives preference to districts, blocks and towns having a minority population below 20%.
2. Jan Shikshan Sansthan (JSSs) are established to provide vocational training to non-literate and school drop outs by identifying skills as would have a local market.
3. The State Resource Centre(s) (SRCs) are mandated to provide academic and technical resource



support to adult and continuing education.

◦ Select the correct answer using the codes below.

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

◦ Your Answer : A

◦ Correct Answer : C

◦ **Answer Justification :**

Justification: Statement 1: IDMI has been operationalised to augment Infrastructure in Private Aided/Unaided Minority Schools/Institutions in order to enhance quality of education to minority children.

The salient features of IDMI scheme are:

- The scheme would facilitate education of minorities by augmenting and strengthening school infrastructure in Minority Institutions in order to expand facilities for formal education to children of minority communities.
- The scheme will cover the entire country but, preference will be given to minority institutions (private aided/unaided schools) located in districts, blocks and towns having a minority population above 20%,
- The scheme will inter alia encourage educational facilities for girls, children with special needs and those who are most deprived educationally amongst minorities.
- The scheme will fund infrastructure development of private aided/unaided minority institutions to the extent of 75% and subject to a maximum of Rs. 50 lakhs per institution for strengthening of educational infrastructure and physical facilities in the existing school including additional classrooms, science / computer lab rooms, library rooms, toilets, drinking water facilities and hostel buildings for children especially for girls.

Statement 2: Jan Shikshan Sansthan (JSSs) are established to provide vocational training to non-literate, neo-literate, as well as school drop outs by identifying skills as would have a market in the region of their establishment.

The Scope of Work of Jan Shikshan Sansthan (JSSs) will include the following:

- Develop/ Source appropriate curriculum and training modules covering vocational elements general awareness and life enrichment components.



- Wherever possible, JSS are encouraged to undertake
- Training equivalent to courses designed by the Directorate of Adult education, National Institute of Open Schooling and Director General Employment & Training.
- Provide training to a pool of resource persons and master trainers for conducting training as also availability of infrastructure and training - specific equipment.
- Administer simple tests and award certificates
- Network with employers and industries for trainees to get suitable placements.

Statement 3: The State Resource Centre(s) (SRCs) are mandated to provide academic and technical resource support to adult and continuing education through development and production of material and training modules. In addition SRC would be required to conduct motivational and environmental building, action research and evaluation and monitoring.

Q Source: Additional Research:

<http://www.insightsonindia.com/2018/08/04/insights-daily-current-affairs-04-august-2018/>

<http://mhrd.gov.in/idmi>

<http://mhrd.gov.in/spqem>

<http://mhrd.gov.in/jss>

78 Consider the following statements. Sardar Vallabhbhai Patel

1. Had been a Congress Leader
2. First Home Minister of independent India
3. Was a member the committee of the Constituent Assembly on Fundamental Rights

◦ Select the correct answer using the codes below.

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

◦ Your Answer : A

◦ Correct Answer : D

◦ **Answer Justification :**

Justification: He (1875-1950) was a leader of the freedom movement; Congress leader; and a follower of Mahatma Gandhi.



He was also the Deputy Prime Minister and first Home Minister of independent India and played an important role in the integration of Princely States with India.

He was a member of important committees of the Constituent Assembly on Fundamental Rights, Minorities and Provincial Constitution.

Q Source: Additional Research: Page 17: 12th NCERT India Since Independence

79 The Parliament cannot amend those provisions which form the 'basic structure' of the Constitution. Which of these features have been mentioned in the constitution as a part of its 'basic structure'?

1. Federalism
2. Secularism
3. Judicial Review
4. Liberty

◦ Select the correct answer using the codes below.

- A. 1 and 2 only
- B. 1, 3 and 4 only
- C. 2 and 4 only
- D. None of the above ✓

◦ Your Answer : D

◦ Correct Answer : D

◦ **Answer Justification :**

Justification: Even though the basic structure doctrine was given by the SC, it is yet to define or clarify as to what constitutes the 'basic structure' of the Constitution.

It is not mentioned anywhere in the constitution, and our understanding of the basic structure comes from the various judgements of the court. So, all statements are wrong. Answer is D.

Learning: The following have emerged as 'basic features' of the Constitution

- Supremacy of the Constitution; Sovereign, democratic and republican nature of the Indian polity; Secular character of the Constitution
- Separation of powers between the legislature, the executive and the judiciary; Federal character of the Constitution; Unity and integrity of the nation; Welfare state (socio-economic justice)
- Judicial review; Freedom and dignity of the individual; Parliamentary system; Rule of law; Harmony and balance between Fundamental Rights and Directive Principles; Principle of equality



- Free and fair elections; Independence of Judiciary; Limited power of Parliament to amend the Constitution; Effective access to justice; Principle of reasonableness; Powers of the Supreme Court under Articles 32, 136, 141 and 142

Q Source: Chapter 10 and 11: Indian Polity: M Laxmikanth

80 The Indian Ocean is important for which of the following reasons?

1. Various rare earth elements could be found in the Indian Ocean.
2. It provides important sea lines of communication between East and West Asia.
3. Nearly 40% of the world's offshore oil production takes place in the Indian Ocean basin.

◦ Select the correct answer using the codes below.

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

◦ Your Answer : A

◦ Correct Answer : C

◦ **Answer Justification :**

Justification: It enjoys a privileged location at the crossroads of global trade, connecting the major engines of the international economy in the Northern Atlantic and Asia-Pacific. This is particularly important in an era in which global shipping has burgeoned.

Indian Ocean is also rich in natural resources. 40% of the world's offshore oil production takes place in the Indian Ocean basin. Fishing in the Indian Ocean now accounts for almost 15% of the world's total.

Mineral resources are equally important, with nodules containing nickel, cobalt, and iron, and massive sulphide deposits of manganese, copper, iron, zinc, silver, and gold present in sizeable quantities on the sea bed.

Indian Ocean coastal sediments are also important sources of titanium, zirconium, tin, zinc, and copper. Additionally, various rare earth elements are present, even if their extraction is not always commercially feasible.

Q Source: General questions on Indian geography

81 With reference to India-Japan relationship, consider the following statements.

1. India and Japan enjoy a "Major Strategic Partnership" relationship status.
2. The India-Japan Comprehensive Economic Partnership Agreement (CEPA) covers not only trade in goods but also Services and Movement of Natural Persons.
3. A 'Japan-India Make in India Special Finance Facility' has been established by both countries.



- Select the correct answer using the codes below.

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

- Your Answer : A
- Correct Answer : A

- **Answer Justification :**

Justification: Statement 1: The Joint Statement signed by Prime Ministers Manmohan Singh and Shinzo Abe in 2006 factored in the new challenges, and the relationship was upgraded to a Global and Strategic Partnership with the provision of annual Prime Ministerial Summits. A Comprehensive Economic Partnership Agreement (CEPA) between Japan and India was concluded in 2011.

Statement 2: The India-Japan Comprehensive Economic Partnership Agreement (CEPA) that came into force in August 2011 is the most comprehensive of all such agreements concluded by India and covers not only trade in goods but also Services, Movement of Natural Persons, Investments, Intellectual Property Rights, Custom Procedures and other trade related issues. The CEPA envisages abolition of tariffs over 94% of items traded between India and Japan over a period of 10 years.

Statement 3: The leaders of both India and Japan visited the city of Varanasi, and signed a partnership agreement with the city of Kyoto in August 2014. A 'Japan-India Make in India Special Finance Facility' of JPY 1.3 trillion was also established.

Q Source: http://mea.gov.in/Portal/ForeignRelation/14_Japan_Nov_2017.pdf

82 Temperature in cities is much higher than that of villages due to

1. Lower forest coverage in cities as compared to villages
2. Concrete and asphalt structure in cities capture and release heat
3. Vehicular emissions in cities release Greenhouse gases that trap heat
4. Cities are more densely populated as compared to villages

- Select the correct answer using the codes below.

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

- Your Answer : D
- Correct Answer : D

- **Answer Justification :**

Justification: Statement 1: Forest moderate temperature, cool the surroundings by transpiration



and capture the carbondioxide that traps heat. Deforestation and low forest cover contributes to urban heat islands.

Statement 2: The concrete and metals in buildings and the asphalt of roads get heated up during the day. This heat is released during the night.

Also, the crowded high rise buildings of the cities trap the warm air and thus raise the temperature of the cities.

Statement 3: Vehicle exhaust emits CO₂, NO_x and other GHGs that capture heat.

Statement 4: Density of population and industrial economic activity automatically increase the heat generated per unit area.

Q Source: Additional Research: Page 24: Geography NCERT 7th: Our Environment

83 The capacity of air to hold water vapour increases as

1. Air gets warmer
2. Air expands in volume for the same weight

◦ Which of the above is/are correct?

- A. 1 only ✗
- B. 2 only
- C. Both 1 and 2 ✓
- D. None

◦ Your Answer : A

◦ Correct Answer : C

◦ **Answer Justification :**

Justification: As the air gets warmer, it's capacity to hold the water vapour increases and so it becomes more and more humid. This is because with the warming up the air expands in volume and more space is created between molecules to accommodate extra water vapour.

For e.g. on a humid day, clothes take longer to dry and sweat from our body does not evaporate easily, making us feel very uncomfortable.

Q Source: Chapter 3 of 7th NCERT Geography

84 How is the seniority of judges in the Supreme Court, conventionally, decided?

- A. Based on date of induction in the Supreme Court ✓
- B. Based on age
- C. Based on length of career span ✗
- D. Based on professional qualifications



- Your Answer : C
- Correct Answer : A

◦ **Answer Justification :**

Learning: It is decided on the basis of date of induction in the Supreme Court. A judge who takes oath earlier becomes senior to another who takes oath later. In cases where warrants for appointment of judges to Supreme Court are issued by the government on different dates, the seniority is automatically decided by virtue of the dates of swearing-in by the CJI.

There is no stated rule, whether in the current Memorandum of Procedure (MoP) or the draft MoP that is under finalisation, to decide the seniority of judges whose warrants of appointment are issued on the same date.

As the warrants are issued by the government in a sequence, the practice has been for the CJI to administer the oath in the same order. For example, the warrants for appointment of current CJI Misra and now retired Justice J Chelameswar were issued on the same day but, as Misra's warrant was numbered above that of Justice Chelameswar, he was sworn in first. This ensured that he became CJI, deemed as senior to Justice Chelameswar.

Q Source:

<https://indianexpress.com/article/explained/justice-joseph-seniority-row-supreme-court-judges-appointment-5294780/>

85 Which of the following forest types covers the largest area in India?

- A. Tropical Moist Deciduous Forest
- B. Tropical Evergreen Forests
- C. Littoral and Swamp Forest
- D. Sub-Tropical Broad Leaved Hill Forest

- Your Answer : A
- Correct Answer : A

◦ **Answer Justification :**

Justification: FAO has provided the relevant statistics, where largest Tropical moist deciduous is followed by tropical dry deciduous. So, deciduous forests cover the largest forest area in India, more than 60%!

Tropical wet evergreen forests follow and then semi-evergreen forests.



Sl. No.	Forest Type	Area in Sq. Km.	Percentage
1.	Tropical Wet Evergreen Forest	51,249	8.0
2.	Tropical Semi Evergreen Forest	26,794	4.1
3.	Tropical Moist Deciduous Forest	236,794	37.0
4.	Littoral and Swamp Forest	4,046	0.6
5.	Tropical Dry Deciduous Forest	186,620	28.6
6.	Tropical Thorn Forest	16,491	2.6
7.	Tropical Dry Evergreen Forest	1,404	0.2
8.	Sub-Tropical Broad Leaved Hill Forest	2,781	0.4
9.	Sub-Tropical Pine Forest	42,377	6.6
10.	Sub Tropical Dry Evergreen Forest	12,538	2.5
11.	Mountain Wet Temperate Forest	23,365	3.5
12.	Himalayan Moist Temperate Forests	22,012	3.4
13.	Himalayan Dry Temperate Forest	313	-
14.	Sub-Alpine and Alpine	18,628	2.8

Q Source: Page 59: NCERT 6th Geography: The Earth Our Habitat

86 Jupiter, Saturn and Uranus have rings around them. These rings consist of

- A. Satellites of these planets only
- B. Icy dust, large rocks and moons of the planets ✓
- C. Comets and asteroids only
- D. Magnetospheric flux of the planet

- Your Answer : B
- Correct Answer : B

◦ **Answer Justification :**

Learning: The composition of ring particles varies; they may be silicate or icy dust. Larger rocks and boulders may also be present. Sometimes rings will have small moons that orbit near the inner or outer edges of rings or within gaps in the rings.\

For e.g. the ring swirling around Saturn consists of chunks of ice and dust.

Recent evidence suggests that ring systems may be found around other types of astronomical objects, including minor planets, moons, and brown dwarfs.

Q Source: Page 2 (Side Box): NCERT 6th Geography: The Earth Our Habitat

87 Weathering of rocks and deposits helps in the

1. Enrichment and concentrations of ores
2. Formation of soil



- Which of the above is/are correct?
 - A. 1 only
 - B. 2 only
 - C. Both 1 and 2 ✓
 - D. None

- Your Answer : C
- Correct Answer : C

◦ **Answer Justification :**

Justification: Statement 1: When rocks undergo weathering, some materials are removed through chemical or physical leaching by groundwater and thereby the concentration of remaining (valuable) materials increases. Without such a weathering taking place, the concentration of the same valuable material may not be sufficient and economically viable to exploit, process and refine.

Certain valuable ores of iron, manganese, aluminium, copper etc., which are of great importance for the national economy can be obtained post-enrichment of deposits via weathering.

Statement 2: We have covered this concept in previous tests.

Q Source: Concepts of Weathering: 11th NCERT: Chapter 5: Fundamentals of Physical geography

88 Long-term economic growth can be achieved by

- A. Neglecting capital goods and focussing fully on consumption goods
- B. Neglecting consumer goods and focussing fully on consumption goods
- C. Maintaining a judicious balance between capital goods and consumption goods ✓
- D. Any of the above

- Your Answer : C
- Correct Answer : C

◦ **Answer Justification :**

Justification: Capital goods make production of consumption goods (like cars) possible.

Since resources are limited in an economy, they can either be channelized for immediate consumption or immediate investment to feed long-term consumption.

If they are channelized for immediate consumption (i.e. say we are producing more cars but not car making machines), a time would come when demand would overshoot supply and economic stagnation would follow.

If however, a balance is maintained by sacrificing some consumption goods to produce more capital goods, we can have more aerated drinks in the future as there will be more machines to fulfil demand.



Only this generates long-term growth. This is why Raghuram G Rajan, former RBI Governor, prescribed moving from consumption spending to investment spending for the Indian economy, so that a judicious can be achieved.

Q Source: Page 12: 12th Macroeconomics NCERT

89 Consider the following statements about Aranyakas.

1. They are the concluding portions of the several Brahmanas.
2. They mainly deal with sacrificial techniques and karma kandas.
3. These were works to be read in the villages, as opposed to 'Brahmanas' text which must be read in the forests.
4. There is no Aranyaka which belongs to the Atharvaveda.

◦ Select the correct answer using the codes below.

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

◦ Your Answer : B

◦ Correct Answer : A

◦ **Answer Justification :**

Justification: Statement 1: Aranyakas are generally the concluding portions of the several Brahmanas, but on account of their distinct character, contents and language deserve to be reckoned as a distinct category of literature. They are partly included in the Brahmanas themselves, but partly they are recognized as independent works.

Statement 2: Aranyaka literature is rather small as compared to the Brahmanas. Whereas the Brahmanas deal with the huge bulk of sacrificial paraphernalia which represents Karma-Kanda, the Aranyakas and Upanishads, on the other hand, chiefly deal with the philosophical and theosophical speculations which represent Jnana-Kanda.

Statement 3: The term Aranyaka is derived from the word 'Aranya' meaning 'forest'. The Aranyaka texts are so-called because 'they were works to be read in the forest' in contradistinction to the regular Brahmanas, which were to be read in the village.

- This is because Yajna and other rituals are prescribed only for those who live in homes and lead the life of house-holders. But it has to be understood that Vedic rituals are intended to confer not only material benefits but also mental purity by constant discipline. Having obtained purity, one must seek the solitude of forests for further concentration and meditation.
- Aranyakas containing explanations of the rituals and allegorical speculations meant for Vanprasthas, who renounce family life residing in the forests for tapas and other religious



activities.

Statement 4: Aranayakas have been written for Rigveda; Samaveda; Shukla Yajurveda; and Krishna Yajurveda only.

Q Source: Additional Research: Questions asked on Vedic literature by UPSC

90 Which of the following statements about the Troposphere is/are NOT correct?

- A. Almost all the weather phenomena like rainfall and hailstorm occur in this layer.
- B. It is the most ideal atmospheric layer for flying aeroplanes.
- C. It helps in radio transmission as radio waves transmitted from the earth are reflected back to the earth by this layer.
- D. Both (b) and (c) ✓

- Your Answer : D
- Correct Answer : D

◦ **Answer Justification :**

Justification: Option A: Clouds and most other gases occur in this layer. Movement of air mass (convection currents) within the layer gives rise to weather phenomena.

Option B: It is stratosphere as this layer is almost free from clouds and associated weather phenomenon, making conditions most ideal for flying aeroplanes.

Option C: It is ionosphere which extends from 80-400 Km in height.

Learning: Exosphere: The upper most layer of the atmosphere is known as exosphere. This layer has very thin air. Light gases like helium and hydrogen float into the space from here.

Q Source: Page 23: Geography NCERT 7th: Our Environment

91 IMPRINT is a national initiative of the Ministry of Human Resource Development (MHRD) designed to

- A. Increase the penetration of internet in rural and remote areas
- B. Address all major engineering challenges relevant to India through an inclusive and sustainable mode of translational research ✓
- C. Attract global talent pool to work at Indian universities and think tanks
- D. Incubating and preparing researchers right from the level of primary school

- Your Answer :
- Correct Answer : B

◦ **Answer Justification :**



Justification: For advancing research in the high education institutions, the government has approved 122 new research projects at a cost of Rs 112 crore under IMPRINT-2 covering Energy, Security, Healthcare, Advanced Materials, ICT and Security/Defence domains.

IMPacting Research, INnovation and Technology (IMPRINT) is a national initiative of the Ministry of Human Resource Development (MHRD) designed to address all major engineering challenges relevant to India through an inclusive and sustainable mode of translational research.

IMPRINT-2 has been approved by Government of India (GoI) with a revised strategy under which, this national initiative will be jointly funded and steered by MHRD and Department of Science and Technology (DST).

While any faculty member from an MHRD funded Higher Education Institute (HEI) including Centrally Funded Technical Institution (CFTI) may lead as the Principal Investigator (PI), single or multiple partners from stake holder ministry, institutions, PSUs, strategic agencies and industry are welcome as Co-PI, partner or collaborator.

Proposals under IMPRINT II Projects should (a) address any declared theme (thrust area) under one of the 10 domains of IMPRINT, and (b) connect either with already identified or new research topics defined by the PI under the same 10 domains.

Projects proposals should provide clear and convincing evidence of promise for translational research leading to viable technology (product, process or prototype) development.

Q Source:

<http://www.insightsonindia.com/2018/08/06/insights-daily-current-affairs-06-august-2018/>

92 Which of the following are Permanent winds on the planet earth?

- A. Easterlies and Westerlies ✓
- B. Monsoon winds
- C. Continental winds
- D. Orographic winds

- Your Answer : A
- Correct Answer : A

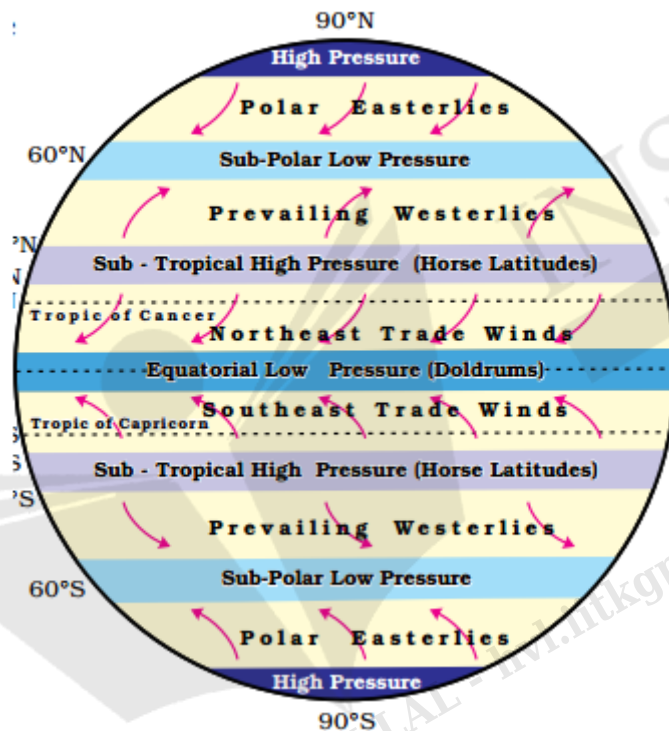
◦ **Answer Justification :**

Learning: Winds can be broadly divided into three types.

- Permanent winds – The trade winds, westerlies and easterlies are the permanent winds.
- These blow constantly throughout the year in a particular direction.
- Seasonal winds – These winds change their direction in different seasons. For example

monsoons in India.

- Local winds – These blow only during a particular period of the day or year in a small area. For example, land and sea breeze, and loo.



Q Source: Page 25: Geography NCERT 7th: Our Environment

93 UN-SPIDER was established in 2006 under the United Nations Office for Outer Space Affairs (UNOOSA) to deal with

- A. Disaster risk management and emergency response ✓
- B. Implementation of Outer Space treaty
- C. Weaponization of outer space
- D. Coordination concerning with the International Space Station ✗

- Your Answer : D
- Correct Answer : A

◦ **Answer Justification :**

Justification: The United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) was established in 2006 under the United Nations Office for Outer Space Affairs (UNOOSA).



UN-SPIDER aims at improving actions to reduce disaster risk or support disaster response operations for developing countries through knowledge sharing and the strengthening of institutions in the use of space technologies.

- Remote sensing for Earth observation, satellite-based telecommunication and global navigation satellite systems contribute to more effective disaster risk management and emergency response. It is UN-SPIDER's mandate to enable developing countries to use all types of space-based information in all phases of the disaster management cycle including prevention, preparedness, early warning, response and reconstruction.
- UN-SPIDER also facilitates cooperation between satellite data and information providers and the different groups of users of such data, such as policymakers, disaster risk managers or emergency responders. The objective is a better flow of information on disaster risks or disaster impacts between all stakeholders and affected populations.
- UN-SPIDER builds capacities in developing countries to access and use space technologies, jointly with its network of international partners.
- UN-SPIDER's Knowledge Portal is a hub for pertinent information, links and resources. Through its tailor-made technical advisory support, UN-SPIDER assesses the individual potential of a country, makes specific recommendations and carries out specialized training courses for government staff. Additionally, through its conferences, workshops and expert meetings, UN-SPIDER brings together relevant stakeholders from both the space and the disaster communities in order to foster an exchange of innovations and experiences.

Q Source: <http://www.unoosa.org/oosa/en/ourwork/un-spider/index.html>

94 With reference to the Banks Board Bureau (BBB) setup in 2016, consider the following statements.

1. It was set up as a body under the RBI on the recommendations of the RBI appointed Nayak Committee.
2. It was the part of Indradhanush Plan of government.
3. Its broad agenda was to improve governance at state-owned banks by assisting banks with capital-raising plans as well as strategies to deal with bad loans.
4. Its mandate involved advising the government on top-level bank appointments.

◦ Select the correct answer using the codes below.

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

◦ Your Answer : D

◦ Correct Answer : B



◦ **Answer Justification :**

Justification: It was set up in February 2016 as an autonomous body- based on the recommendations of the RBI-appointed Nayak Committee. It was the part of Indradhanush Plan of government.

Its broad agenda was to improve governance at state-owned lenders. Its mandate also involved advising the government on top-level bank appointments and assisting banks with capital-raising plans as well as strategies to deal with bad loans.

The Bureau is also engaging with the Public Sector Banks (PSBs) to help build capacity to attract, retain and nurture both talent and technology - the two key differentiators of business competencies in the days to come. In its endeavour, the Bureau is mindful of the need to have a fully empowered board in each and every PSB.

Q Source: Frequently in news due to high bank NPAs

<http://www.banksboardbureau.org.in/>

95 Which of the following rivers flow in South-east or East Asia?

1. Salween
2. Irawaddy
3. Yellow river

◦ Select the correct answer using the codes below.

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

◦ Your Answer : C

◦ Correct Answer : D

◦ **Answer Justification :**

Justification: The Yellow River or Huang He is the second longest river in Asia, after the Yangtze River, and the sixth longest river system in the world

The Irrawaddy River flows from north to south through Myanmar. It is the country's largest river and most important commercial waterway.

The Salween or, officially, Thanlwin River, known in China as the Nu River or Lu River flows from the Tibetan Plateau into the Andaman Sea in Southeast Asia.

Q Source: South-east and East Asia map

96 Which of the following sources of freshwater on earth is the most abundant, among the following?

- A. Groundwater
- B. Atmosphere
- C. Ice caps ✓
- D. Fresh water lakes

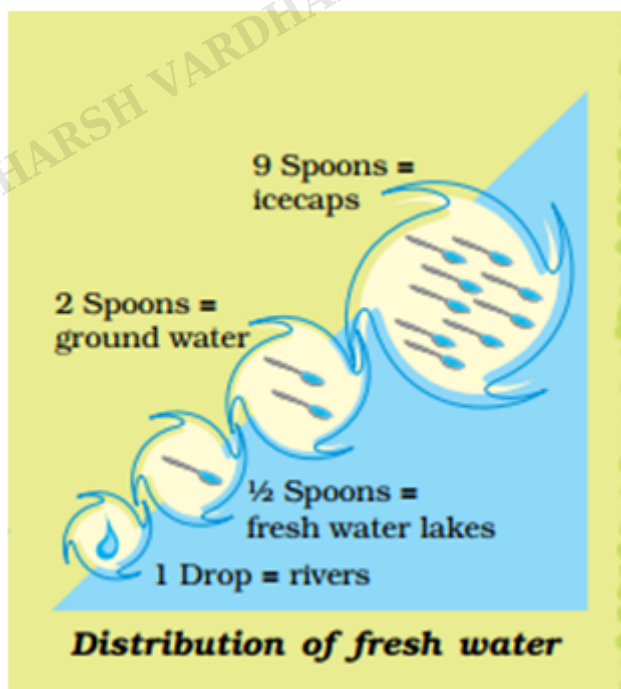
- Your Answer : C
- Correct Answer : C

◦ **Answer Justification :**

Justification: Distribution of water as given in NCERT:

Oceans	:	97.3	Saline Water
Ice-caps	:	02.0	Fresh Water
Ground water	:	0.68	
Fresh Water			
Fresh water lakes	:	0.009	
Inland seas &			
Salt lakes	:	0.009	
Atmosphere	:	0.0019	Fresh Water
Rivers	:	0.0001	
		<u>100.00</u>	

It can be understood by an analogy.



Q Source: Page 32: Geography NCERT 7th: Our Environment

97 Which of the following signify the difference between Martial law and National Emergency?

1. Martial law can be imposed in a specific part of the country whereas National Emergency must be applicable throughout the country.
2. Martial law suspends the concerned civilian government and ordinary law courts whereas they are continued in the case of a National Emergency.

◦ Select the correct answer using the codes below.

- A. 1 only
- B. 2 only ✓
- C. Both 1 and 2
- D. None of the above ✗

◦ Your Answer : D

◦ Correct Answer : B

◦ **Answer Justification :**

Justification: The differences are outlined below.

Table 7.3 Martial Law Vs National Emergency

Martial Law	National Emergency
1. It affects only Fundamental Rights.	1. It affects not only Fundamental Rights but also Centre–state relations, distribution of revenues and legislative powers between centre and states and may extend the tenure of the Parliament.
2. It suspends the government and ordinary law courts.	2. It continues the government and ordinary law courts.
3. It is imposed to restore the breakdown of law and order due to any reason.	3. It can be imposed only on three grounds—war, external aggression or armed rebellion.
4. It is imposed in some specific area of the country.	4. It is imposed either in the whole country or in any part of it.
5. It has no specific provision in the Constitution. It is implicit.	5. It has specific and detailed provision in the Constitution. It is explicit.

Q Source: Chapter 7: Indian Polity: M Laxmikanth

98 Why tropical cyclones are not strongly formed at equator or regions nearby?

1. Absence of strong Coriolis force
2. Lack of regions where warm and cold fronts meet
3. Flow of counter-currents disrupts cyclone patterns

◦ Select the correct answer using the codes below.

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



- Your Answer : A
- Correct Answer : A

◦ **Answer Justification :**

Justification: Statement 1: Coriolis force is absent at the equator. Due to this, winds blowing from high pressure sub-tropics to low pressure tropics, do not form a circulatory pattern around a low pressure zone. Instead, they simply fill the low pressure zone. So, 1 is correct.

Statement 2: Warm and cold fronts are required for extra-tropical cyclones. So, 2 is wrong.

Statement 3: Counter-currents or any ocean current does not disrupt cyclones unless it drastically affects ocean surface temperature. 3 is not very relevant here.

Q Source: Page 91: Fundamentals of Physical Geography: 11th NCERT

99 Which of the following describes “Thuni” most appropriately?

- A. It is an ancient form of martial arts practiced in Kerala.
- B. It is an environmental conservation technique of the Goddas.
- C. It is a harvest festival celebrated in the North-eastern India. ✓
- D. It is the traditional law making body of the Nagas.

- Your Answer :
- Correct Answer : C

◦ **Answer Justification :**

Learning: It is one of the major festivals celebrated by the Chakhesang tribe, predominantly by the Poumai Chakhesang from the Razeaba area.

- For the Poumai community in Manipur, Thuni is a premier festival of new harvest.
- It is celebrated from January 5th every year and continues for several days.
- Most importantly, Thuni is a festival of equity when both the rich and the poor; the old and the young share from the same barrel of rice beer and eat the same food.

Q Source: Improvisation: Page 11: Harvest Festivals: Science 8th NCERT

100 These places are on the river course of Ganga. Which of these has the northernmost latitude?

- A. Kanpur ✓
- B. Allahabad

- C. Varansi ✖
D. Murshidabad

- Your Answer : C
- Correct Answer : A

◦ **Answer Justification :**

Justification: Murshidabad lies in West Bengal and option D can be eliminated. You need to know the locations of important places. North-south order or east-west order can be asked by UPSC.



Q Source: Map-based questions: India