

## ANSWER KEY FOR UPSC CAPF 2024 PAPER 1

T.B.C.: FIAS-PTS20-L2F8

Test Booklet Series

### GENERAL ABILITY AND INTELLIGENCE

**B**

Time Allowed: Two hours

Maximum Marks: 250

1. The Answer keys are subjected to **2% error**.
2. For any controversy in the answer key please **WhatsApp / Telegram to 7057227225/[Missioncapfhub@gmail.com](mailto:Missioncapfhub@gmail.com)**
3. The answer keys are marked in **Red / (Bold)** – Dark Black (printout)
4. **Expected cut off for CAPF 2024** will be announced by Tuesday (06.08.2024) on our website ([www.missioncapfhub.com](http://www.missioncapfhub.com)), official telegram channel [@missioncapfhub](https://t.me/missioncapfhub)
5. We have provided **detailed explanation & reference** of every question in this document.

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1. **Specialized Mentorship Program [SMP]** for CAPF 2025 & CDS 2024-25.
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5. **Yalgaar Daily Answer Writing [DAW]** program for CAPF 2025.
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Q. 1. Which of the following sectors have been identified as 'Critical Sectors' by the National Critical Information Infrastructure Protection Centre?

1. Power and Energy
2. Industry
3. Banking and Financial services
4. Irrigation
5. Education

Select the answer using the code given below

A. 3, 4 and 5

**B. 1 and 3**

C. 1,2 and 4

D. 1, 3 and 4

Answer- B

**National Critical Information Infrastructure Protection Centre (NCIIPC)** is an organisation of the Government of India created under Section 70A of the Information Technology Act, 2000 (amended 2008), through a gazette notification on 16 January 2014. Based in New Delhi, India, it is designated as the National Nodal Agency in terms of Critical Information Infrastructure Protection.

NCIIPC has broadly identified the following as '**Critical Sectors**':-

1. **Power & Energy**
2. **Banking, Financial Services & Insurance**
3. Telecom
4. Transport
5. Government
6. Strategic & Public Enterprises

Q. 2 Who, among the following Presidents of India, sent back the Post Office (Amendment) Bill, 1986 for the reconsideration of the Parliament?

**(a) R. Venkataraman**

(b) Shankar Dayal Sharma

(c) Giani Zail Singh

(d) K R. Narayanan

Answer- A

Explanation- In 1986, the Parliament passed a bill known as Indian Post office (amendment) bill. This bill was widely criticized by many for it sought to curtail the freedom of the press. The then President, Gyani Zail Singh, did not take any decision on this bill. After his term was over, the next **President, Venkataraman sent the bill finally back to the Parliament for reconsideration.**

Source- Indian Constitution at Work, Class 11th NCERT, page no – 86

3. Consider the following statements about the emblem of the Milano Cortina 2026 Winter Olympic and Paralympic Games:

1. The name of the emblem is 'Futura'

2. The emblem of the Games was decided by a popular vote for the first time in the history of the Olympic.

Which of the above statements is/are correct ?

(a) 1 only

(b) 2 only

**(c) Both 1 and 2**

(d) Neither 1 nor 2

Answer: C

Explanation: **The Milano Cortina 2026** Organising Committee is giving you the chance. Until 22 March, members of the public are invited to vote for one of two logos to become the official Games emblem. It is the **first time in the history of the Games** that a popular vote will decide the Olympic emblem. **'Futura'** is the official emblem of Milano Cortina 2026.

Link- <https://olympics.com/en/news/vote-milano-cortina-2026-emblem-winter-olympics>

4. Which one among the following statements with regard to India's maritime initiative, SAGAR, is correct?

(a) It is a platform for conducting joint naval exercises under QUAD

**(b) It aimed at promoting maritime cooperation with countries of the Indian Ocean Region**

(c) It is an alliance of India, USA and Japan to provide safety to merchant ships passing through the Indian Ocean Region

(d) It is the name given to India's participation in the Contact Group on Piracy set up by the UN Security Council

Answer: B

➤ **FIRST edition of MAHASAGR:** Indian Navy marked a significant milestone with the inaugural edition of MAHASAGR, a high-level virtual interaction aimed at promoting active and security and growth in the Indian Ocean Region (IOR). **The chosen theme:** "Collective Maritime Approach towards Countering Common Challenges." **MAHASAGR stands for Maritime Heads for Active Security And Growth for All in the Region.**

5. Match List J with List II and the correct answer using the code given below the Lists :

List 1

List 2

(Climate Conference)

(Country)

A. COP-26

1. Egypt

B. COP-27

2. Azerbaijan

C. COP-28

3. United Kingdom

D. COP-29

4. UAE

Code

- |     | A | B | C | D |
|-----|---|---|---|---|
| (a) | 3 | 4 | 1 | 2 |
| (b) | 2 | 1 | 4 | 3 |
| (c) | 2 | 4 | 1 | 3 |
| (d) | 3 | 1 | 4 | 2 |

Answer: D

## ENVIRONMENT

- **COP 28:** The 2023 United Nations Climate Change Conference or Conference of the Parties of the UNFCCC, more commonly known as COP28, was the 28<sup>th</sup> United Nations Climate Change conference, held at Expo City, Dubai, United Arab Emirates. The event is intended for governments to agree on policies to limit global temperature rises and adapt to impacts associated with climate change. What are COPs?

2. It aimed at decarbonising the heavy industry and long-distance transport sectors responsible for 30 per cent of global emissions.
2. It is launched by US President Joe Biden and the WEF at **COP26**, Glasgow, UK.
3. Besides India, Denmark, Italy, Japan, Norway, Singapore, Sweden and the United Kingdom have also joined the FMC.

- During **COP26** conference in Glasgow, it was decided that Egypt will host **COP27 United Nations Climate Change Conference in 2022**. United Arab Emirates (UAE) was selected to host **COP28 international climate conference in the year 2023**.

6. Under which one among the following articles of Constitution of India, a member of civil service, whether of the Union or State, seeks protection from unlawful dismissal from service?

A. Article 309

**B. Article 311**

C. Article 315

D. Article 320

**Answer- B**

Explanation- **Article 311.** Dismissal, removal or reduction in rank of persons employed in civil capacities under the Union or a State.—(1) No person who is a member of a civil service of the Union or an all-India service or a civil service of a State or holds a civil post under the Union or a State shall be dismissed or removed by an authority subordinate to that by which he was appointed. **(2) No such person as aforesaid shall be dismissed or removed or reduced in rank except after an inquiry in which he has been informed of the charges against him and given a reasonable opportunity of being heard**

Source- Constitution of India, Bare Act Article 311

DoPT- Rules for civil servants

7. Which of the following statements are correct With regard to the UN Convention on the Law of the Sea (UNCLOS) ?

1.UNCLOS authorizes the UN security council to take a direct action in case of the disputes between States on sovereign rights over Exclusive Economic Zones

2.UNCLOS defines contiguous zones and specifies its function

3.Both the US and India have ratified UNCLOS

4.UNCLOS grants certain rights to Landlocked States

Select the answer using the code given below:

(a) 1, 2 and 4 only

(b) 1 and 2 only

**(c) 2 and 4 only**

(d) 1, 3 and 4

Answer: C

US has not ratified the UNCLOS and UNCLOS does not authorize UNSC

Reference:- [www.un.org](http://www.un.org)>unclos

8. Which of the following statements is/are correct?

1. The Muddiman Committee recommended the separation of Accounts from Audit as a necessary financial reform.

2. Indian Institute of Public Administration was set up on the lines recommended by Dr. Paul H. Appleby.

Select the answer using the code given below:

A. 1 only

**B. 2 only**

C. Both 1 and 2

D. Neither 1 nor 2

**Answer- B**

Explanation-

The Mudiman committee was not related to accounts but related to dyarchy. The Muddiman Committee, also known as the Reforms Enquiry Committee, was established to investigate the workings of the Constitution as set up in 1921 under the India Act of 1919.

Pandit Jawaharlal Nehru established the Indian Institute of Public Administration on March 29, 1954 based on the recommendations of a survey carried out in 1953 by **Prof. Paul H. Appleby**, Dean, Maxwell School of Citizenship and Public Affairs, Syracuse University and a Consultant with the Ford Foundation invited to advice on the subject, by the Government of India.

Source- Spectrum Modern India- Chapter 18 Page no 357, Indian Institute of Public Administration website

9. Which one among the following reports states that the budget is seen, not as a simple balancing of tax receipts against expenditure but as a sophisticated process in which instruments of taxation and expenditure are used to influence the course of the economy?

**(a) Administrative Reforms Commission**

(b) Hoover Commission Report

(c) Haldane Committee Report

(d) Plowden Report on Control of Expenditure

Answer: A

#### (i) General

The present budgeting procedure is the legacy of a system which by and large remained unaltered in approach and outlook for nearly a century. That approach and outlook has been revenue-and-expenditure oriented, but seldom imbued with a concern for speed and efficiency so urgently needed for the attainment of our socio-economic goals and objectives. In the context of the enormous growth and complexity of the activities of modern governments, particularly those which are committed to planned economic development, the objectives sought to be achieved by the Budget extend beyond providing the legislature with the means of exercising an over-all control over the revenue collected and expenditure incurred by the executive. In a developing economy, the Budget should be a meaningful reflection of the national developmental effort, and a means for evaluating the progress of projects against set targets, as well as a tool for securing the efficient management of operations entrusted to the executive. It should also facilitate the appreciation of the impact of governmental expenditure on the national economy.



The Hoover Commission, officially known as the Commission on Organization of the Executive Branch of the Government, was a bipartisan panel established to assess and recommend improvements to the efficiency and effectiveness of the U.S. federal government.

The Haldane Committee Report, formally known as the Report of the Machinery of Government Committee, was published in 1918. It was chaired by Viscount Haldane, a prominent British statesman and lawyer. The committee was established to review and recommend reforms to the organization and operation of the British government, particularly in the context of the increased administrative demands that had arisen due to World War I.

Committee of Enquiry on the Control of Public Expenditure was set up in 1959 under the chairmanship of Lord Plowden to examine the machinery of government expenditure.

Plowden Report on Control of Expenditure did not define budget in such a manner.

10. Which of the following statements are correct about the composition of the G 20 ?

1. All G 7 countries are members of G 20
2. All BRICS countries are members of G 20
3. All ASEAN countries are members of G 20
4. All permanent members of Security Council are members of G 20

Select the answer using the code given below :

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

Answer: C

Explanation:

- **G20: G20 2023 held under the presidency of India.** It is held in various summit including states of heat summit organized in month of September 2023.  
**Theme:** 'One Earth, One Family, One Future'.

**About Group of 20 (G20)** (Which will be renamed as G21 in upcoming days):

1. The **G20**, formed in 1999, is a group of twenty of the world's largest economies (Now plus African Union) that meets regularly to coordinate global policy on trade, health, climate, and other issues.
2. The **G20** or **Group of 20** is an intergovernmental forum comprising 19 sovereign countries, the European Union (EU), and the African Union (AU).
3. It works to address major issues related to the **global economy, such as international financial stability, climate change mitigation** and sustainable development.
4. The **G20** is composed of most of the world's largest economies' finance ministries, including both industrialized and developing countries; it accounts for **around 80% of gross world product (GWP), 75% of international trade**, two-thirds of the global population and **60% of the world's land area**.
5. **G20 Nations:** Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the U.K., U.S., the European Union and African Union.
6. The **G20 does not have a permanent secretariat or Headquarters**.
7. **G20 2023 guest countries:** Bangladesh, Egypt, Mauritius, Netherlands, Nigeria, Oman, Singapore, Spain and UAE.

- **Russia Assumes BRICS 2024 Chairmanship:**

1. Russia's 2024 **BRICS** Chairmanship began **January 1, 2024**.
2. Russian President Vladimir Putin shared the motto - "**Strengthening Multilateralism for Equitable Global Development and Security**".
3. **16<sup>th</sup> BRICS** Summit will be held in **Kazan, Russia** in October 2024.
4. The **BRICS** (Brazil, Russia, India, China, and South Africa) now includes **10 countries**
5. **10 New Countries:** Egypt, Ethiopia, Iran, Saudi Arabia, and the United Arab Emirates joined **BRICS** as new full members.

Reference: January 2024 & Sept 2023 Current Tit-Bits Magazine by OneClas.in (Mission CAPF Hub)

11. Which of the following statements is/are correct?

1. Some rights contained in part III of the constitution of India are enforceable against the state only.
2. Some rights contained in part III of the constitution of India are enforceable in favor of citizens only.
3. Some rights contained in part III of the constitution of India are enforceable against both, the state and individuals.

Select the answer using the codes given below:

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

**Answer- D**

Explanation-

- Some fundamental rights are available only to the citizens while others are available to all persons whether citizens, foreigners or legal persons like corporations or companies.



- All FR are available against the arbitrary action of the state. However, some of them are also against the actions of private individuals.
- The Supreme Court held that the right under Article 17 is available against private individuals also and it is the constitutional obligation of the State to take necessary action to ensure that this right is not violated.

Source- Indian Polity - Laxmikant chapter 7

12. Match List 1 and List 2 and select the correct answer

List 1

- A. Kothari Commission
- B. Satish Chandra Committee
- C. PC Hota Committee
- D. Prof YK Alagh Committee

List 2

- 1. Inclusion of Medical and Engineering Subjects
- 2. Entrance Examination for Civil Services after Class 12th
- 3. Objective Methodology for Personality Assessment
- 4. Civil Services Mains Examination (Written and Interview)

- |     | A | B | C | D |
|-----|---|---|---|---|
| (a) | 4 | 1 | 2 | 3 |
| (b) | 4 | 2 | 1 | 3 |
| (c) | 3 | 1 | 2 | 4 |
| (d) | 3 | 2 | 1 | 4 |

Answer- A

Explanation-

- Satish chandra committee- Education, Electronics and Telecommunication Engineering and Medical Science subjects be included as Optionals both in the Preliminary and Main Examinations.
- Kothari Commission- Recruitment to the All India and Central Services (Class I) be made through a common unified examination comprising three stages. viz., Preliminary Examination, Main Examination (written and Interview) and Post-Training Test to be conducted by the UPSC.
- Hota Committee Report, 2004- The Committee on Civil Service Reforms- made recommendations, among other things on recruitment and recommended that the age for entrants to the higher civil services should be between 21-24 years with a relaxation of 5 years for SC/STs and 3 years for OBCs.
- Alagh Committee (2001) recommended the adoption of objective methodology in personality assessment test.

Source-

Report on DoPT website- <https://darpg.gov.in/sites/default/files/ExaminationReviewCommittee2001.pdf>- page 16, 24

13. Under which one among the following Articles of the Constitution of India, the seats are reserved for the Scheduled Caste and the Scheduled Tribe in every municipality?

- (a) 243-R
- (b) 243-S

(c) 243-T

(d) 243-ZA

**Answer- C**

Explanation- A 243-T- 74th constitutional amendment act

Source- Bare Act- Constitution of India

14. Which of the following is/are correct?

1. The abolition of the Official Secrets Act, (1923) was recommended by the 2nd Administrative Reforms Commission.

2. The Right to Information Act was enacted in 2005.

Select the answer using the codes given below:

(a) Only 1

(b) Only 2

**(c) Both 1 and 2**

(d) Neither 1 nor 2

**Answer- C**

Explanation- The Second Administrative Reforms Commission (ARC), in its Report of June 2006, had, inter-alia, recommended that the Official Secrets Act (OSA), 1923 should be repealed, and substituted by a chapter in the National Security Act, containing provisions relating to official secrets.

The right to information act was passed in the year 2005.

Source- [https://pib.gov.in/newsite/PrintReleaseGovernor could take over and indefinitely run administration.e.aspx?relid=121247](https://pib.gov.in/newsite/PrintReleaseGovernor%20could%20take%20over%20and%20indefinitely%20run%20administration.e.aspx?relid=121247)

RTI website

15. "Mission Shakti" (DRDO) is the name given by India to

(a) Inter-continental Ballistic Missile.

(b) Air to Air missile.

**(c) Anti-satellite missile.**

(d) Nuclear powered attack submarine.

Answer: C

➤ **Anti-Satellite Model** unveiled at **DRDO**. India conducted its **first anti missile satellite test** under "**Mission Shakti**". **Mission Shakti** was undertaken to develop highly-potent **Anti-satellite weapons (ASAT)**. It is a joint programme of the Defence Research and Development Organisation (**DRDO**) and the Indian Space Research Organisation (**ISRO**).

Reference: Current Tit-Bits Magazine by OneClass.in (Mission CAPF Hub)

16. Consider the following statements about the costumes and headgear/ hairstyle in India during 4th-7th century AD:

1. There was a marked preference for stitched garment as compared to any previous age.
2. Simple plaits without any floral embellishment dominated the hairstyle of women.

Which of the statements given above is/are correct?

**(a) 1 only**

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Answer: A

**Statement 1 is correct:** <https://indianculture.gov.in/timeless-trends/history-clothing-ancient-india>

During the Gupta period (4th century-6th century CE), textiles became richer, and stitched garments began to be widely used.

**Statement 2 is wrong:** For women during this period, hairstyles were often more elaborate and adorned with floral decorations and ornaments, contrary to the notion of simple plaits without embellishments. The use of flowers and decorative elements was common in the hairstyles of women in ancient India.

17. Which of the following statements are correct

1. The third-round table conference met in London in November 1932 without the participation of Congress
2. The discussions in the third-round table conference led to the passing of Government of India Act 1935
3. The Government of India Act 1935 did not support the idea of provisional autonomy.
4. The Governor was not given any power in the act of 1935 to take over and run the administration of a province

Select the answer using the code given below-

(a) 3 and 4

**(b) 1 and 2**

(c) 2 and 3

(d) 1 and 3

**Answer- B**

Explanation-

- The third Round Table Conference, held between November 17, 1932 and December 24, 1932, was not attended by the Indian National Congress and Gandhi. It was ignored by most other Indian leaders.
- The recommendations of 3rd RTC were published in a White Paper in March 1933 and debated in the British Parliament afterwards. A Joint Select Committee was formed to analyse the recommendations and formulate a new Act for India, and that committee produced a draft Bill in February 1935 which was enforced as the Government of India Act of 1935 in July 1935.
- Provinces were granted autonomy and separate legal identity in 1935 act
- Governor could take over and indefinitely run the administration.

Source- Modern India Spectrum- Page 387, 406

18. Consider the following pairs of texts and their subjects:

1. Tilakmanjari : Mathematics

2. Nighantu : Medicine

3. Janakiharan : Logic

Which of the pairs given above is/are correctly matched ?

(a) 1 only

**(b) 2 only**

(c) 1 and 2

(d) 2 and 3

Answer: B

**Pair 1 is wrong:** This text is not related to mathematics. Dhanpal composed Tilakmanjari in praise of tirthankar Rishabhdev. Dhanpal titled the work "Tilakmanjari" as a tribute to his daughter's assistance, acknowledging her contribution that turned the impossible into reality.

[https://jainknowledge.com/media-information/208/jain\\_stories/Tilakmanjari](https://jainknowledge.com/media-information/208/jain_stories/Tilakmanjari)

**Pair 2 is correct:** This is correctly matched with **medicine**. The term "Nighantu" refers to a type of ancient text, and the most well-known Nighantu is related to Ayurveda (traditional Indian medicine). Specifically, the "Nighantu" texts like the "**Raj Nighantu**" are used in the context of medicinal herbs and treatments.

Among the Nighantu texts, **Dhanvantari Nighantu** stands out in that it is one of the oldest and most referenced texts, providing a distinctive **categorization of 373 drugs**. Moving beyond earlier works such as Astanga Nighantu, Nidana or Rogaviniscaya, Dhanvantari Nighantu deals with the unique properties, actions, incompatibilities and safety of individual drugs in addition to listing synonyms.

<https://www.historyofayurveda.org/library/dhanvantari-nighantu>

**Pair 3 is wrong:** Srilankan author **Kumaradasa**, is the author of a Sanskrit *Mahakavya* called the *Janaki-harana* or Janaki's abduction. This text is related to **poetics and drama**, not logic.

[https://r.search.yahoo.com/\\_ylt=AwrlQP7Nb69mqDgVLU27HAX.;\\_ylu=Y29sbwNzZzMEcG9zAzEEdnRpZA MEc2VjA3Ny/RV=2/RE=1722802254/RO=10/RU=https%3a%2f%2fwwww.outlookindia.com%2fnational%2fxplained-the-many-ramayanas-outside-india-news-227482/RK=2/RS=y8RM6vl\\_QP6kwuXspT9fZxcmKp0-](https://r.search.yahoo.com/_ylt=AwrlQP7Nb69mqDgVLU27HAX.;_ylu=Y29sbwNzZzMEcG9zAzEEdnRpZA MEc2VjA3Ny/RV=2/RE=1722802254/RO=10/RU=https%3a%2f%2fwwww.outlookindia.com%2fnational%2fxplained-the-many-ramayanas-outside-india-news-227482/RK=2/RS=y8RM6vl_QP6kwuXspT9fZxcmKp0-)

19. The Junagarh inscription goes on to tell us that during the reign of Rudra- daman, in the year 72 of the Saka era, there occurred a terrible storm. What would be the time in CE of the occurrence of that terrible storm?

**(a) 150 CE**

(b) 181 CE

(c) 130 CE

(d) 120 CE

Answer: A

## 5. Summary of the Content of Junagadh Inscription

This inscription gives us the history of the Sudarsan lake when it records its restoration during the time of Mahakshatrapa Rudradaman. The name Sudarsana is first recorded in the opening line of Rudradaman's inscription as *idam tadakam sudarshanam* (This lake Sudarshana)

The text states simply that 'the work was carried out by the minister Suvisakha'. That he was successful in what he did is made clear at the outset itself where it is stated "this lake Sudarsana...is now rebuilt in excellent condition".

It is said in the inscription that it was constructed by Vaishya Pushyagupta who was the provincial Governor of Chandragupta Maurya. It was beautified by adding channels (*pranalibhir alamkritam*) by Yavanaraja Tushaspha, governor of this area during the reign of king Asoka. Then many years later, during the reign of Rudradaman, in the winter of the year 72 of the Saka era (150 CE), there was a terrible storm. We are told that 'clouds, pouring with rain, had converted the earth, as it were, into one ocean, by the excessively swollen floods of the Suvarnasikata, Palasini and other streams of mount Urajayat [Girnar].' The

Alternative solution: To determine the time in CE of the terrible storm mentioned in the Junagarh inscription during the reign of Rudradaman, we need to convert the year 72 of the Saka era to the Common Era (CE).

The Saka era began in 78 CE. To convert a year in the Saka era to CE, you add 78 to the Saka year.

So, for year 72 of the Saka era:

Year in CE =  $72 + 78 = 150$  CE

Therefore, the terrible storm occurred in **150 CE**.

The correct answer is **(a)**

20. Abdur Razzak, the traveler to Vijayanagar, had referred to the presence of a number of flower merchants in Vijayanagar and noted a particular flower that seemed as necessary as food to the people of that part. Which variety of flower was being referred to by Abdur Razzak?

- (a) Jasmine
- (b) Lotus
- (c) Hibiscus

**(d) Rose**

Answer: D

<https://www.notesonindianhistory.com/2018/03/deva-rayas-kingdom-as-seen-by-abdur.html>

**Description of the City by Razzak:** The city of Vijayanagar is such that the pupil of the eye has never seen a place like it, and the ear of intelligence has never been informed that there existed anything to equal it in the world. It has seven fortified walls, one within the other. The seventh fortress, which is placed in the center of the



others, occupies an area ten times larger than the market-place of the city of Herat (City in Afghanistan). It is the palace which is used as the residence of the king. Between the first, second and third walls, there are cultivated fields, gardens and houses. From the third to the seventh fortress, there can be seen crowded shops and bazaars. At the gate of the king's palace are four bazaars, placed opposite each other, where the **rose merchants** expose their sweet smelling and fresh looking roses for sale. These people could **not live without roses, and they look upon them as quite as necessary as food**. The inhabitants of this country, whether high or low, down to the artisans of the bazaar, wear jewels adorned with precious stones in ears, necks, arms, wrists and fingers.

21. In Kautilya's Arthashastra, the conquerer king is expected to establish, in the conquered territories, a social order based on the

(a) varna system only

**(b) dharma, varna and ashrama systems**

(c) dharma only

(d) varna and ashrama systems

Answer: B

Arthashastra asserts protection of the social order, defined with reference to the maintenance of **varnashrama dharma**, is an important duty of the king. The king, "after conquering the world, . . . should enjoy it divided into **varnas** [classes, sometimes castes] and **asramas** [Hindu stages of life] in accordance with his **own duty**." The word "own duty" has an indirect meaning that refers to dharma. Hence, option **(b)** is the correct answer.

However, the answer could differ and would also be **(d)** if UPSC were to rely solely on the words and sentences found in standard literature.

22. Consider the following eras in early India:

1. Shaka era

2. Kalachuri era

3. Vikrama era

4. Harsha era

5. Gupta era

Which one of the following is the correct chronological order of the above eras starting with the earliest ?

(a) 1-2-3-4-5

(b) 3-1-5-2-4

(c) 2-3-1-4-5

**(d) 3-1-2-5-4**

Answer: D

Many different eras were used in ancient and early medieval India. To cite a few examples—the **Vikrama era of 58 BCE**, the **Shaka era of 78 CE**, the **Kalachuri-Chedi era of 248 CE**, and the **Gupta era of 319–20 CE**. While the initial year of most ancient and early medieval eras is known, uncertainty still surrounds a few. For instance, the suggested dates for the beginning of the Harsha era include **612, 619, and 648 CE**.

Therefore, the correct chronological order is: **(d)**

23. What is Nalayira Divyaprabandham?

**(a) Compositions by the Alvars compiled in the form of an anthology**

(b) Hymns composed by Nayanars

(c) Eulogies composed for Chola kings

(d) An exposition of the hymns of Rig Veda in Malayalam

Answer: A

The hymns of the 12 Alvars were collected in the 10th century by Nathamuni in the *Nalayira Divya Prabandham* (Four Thousand Holy Hymns), which constituted the Vaishnava canon.

Therefore, the correct ans is: **(a)**

24. What are bhuni, pachara, and dopati mentioned frequently in the bio- graphs of the Vaishnava reformers of medieval Assam

(a) Vessels of metal used in religious oblation

(b) Agricultural implements

(c) Musical instruments used at the time of Bohag Bihu festival

**(d) Pieces of men's clothes**

Answer: D

**Churia or bhuni** is an unstitched lower garment used in medieval Assam.

**Pachara**, is made of coarse hand/mill-spun Eri silk yarn and is used by males as body wrapper in winter.

**Dopati**: This term refers to a **specific type of garment**, typically a **cloth or shawl** worn by people in Assam. In religious contexts, it might be associated with the attire of Vaishnava devotees or reformers. It symbolizes modesty and adherence to the traditions of the Vaishnava sect.

The correct answer is: **(d)**

25. Consider the following statements about the Rowlatt Act of 1919)

1. It was passed by the Imperial Legislative Council

2. Khilafat Committee was formed to oppose the Act

3. While Gandhiji was arrested, the local leaders were allowed to continue the protest

How many of the above statements is/are NOT correct?

- (a) One
- (b) Two**
- (c) Three
- (d) None

Answer: B

**Statement 1 is correct:** Just six months before the Montford Reforms were to be put into effect, two bills were introduced in the Imperial Legislative Council. One of them was dropped, but the other—an extension to the Defence of India Regulations Act, 1915—was passed in March 1919. It was what was officially called the Anarchical and Revolutionary Crimes Act, but popularly known as the Rowlatt Act. All the elected Indian members of the Imperial Legislative Council voted against the bill, but they were in a minority and easily overruled by the official nominees.

**Statement 2 is incorrect:** In early 1919, a Khilafat Committee was formed under the leadership of the Ali brothers (Shaukat Ali and Muhammad Ali), Maulana Azad, Ajmal Khan, and Hasrat Mohani, to force the British government to change its **attitude towards Turkey**.

**Statement 3 is incorrect:** When Mahatma Gandhi was arrested for his role in organizing protests against the Rowlatt Act, the British authorities cracked down heavily on the protests and arrested many local leaders as well. The protests were not allowed to continue in an organized manner.

**Reference from NCERT Theme 13:** Gandhiji was detained while proceeding to the Punjab, even as **prominent local Congressmen were arrested**. The situation in the province grew progressively more tense, reaching a bloody climax in Amritsar in April 1919, when a British Brigadier ordered his troops to open fire on a nationalist meeting

26. Consider the following statements about Mahanavami dibba, a massive platform:

- 1. It is situated on one of the highest points in the city of Vijayanagara
- 2. Virupaksha temple is located on it

Which of the above statements is/are correct?

- (a) 1 only**
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: A

Statement 1 is correct: **(Reference from NCERT Theme 7)** Located on one of the highest points in the city, the “mahanavami dibba” is a massive platform rising from a base of about 11,000 sq. ft to a height of 40 ft. There is evidence that it supported a wooden structure.

**Statement 2 is incorrect:** The Virupaksha Temple is not located on the Mahanavami Dibba. Instead, the Mahanavami Dibba is a massive platform or pavilion within the Royal Enclosure, and the Virupaksha Temple is situated in a different part of Vijayanagara, closer to the Hampi Bazaar.

Therefore, the correct answer is **(a) 1 only**.

27. Which of the following statements about the Bundela rebellion against Aurangzeb are correct?

1. Shivaji advised Chhatrasal to promote local risings against Aurangzeb
2. Chhatrasal levied chauth like marathas
3. In 1705, Aurangzeb decided to make peace with Chhatrasal and Chhatrasal was granted mansab of four-thousand.

Select the answer using the code given below:

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

Answer: D

**Statement 1 is correct:** In 1670, he met Shivaji Maharaj and decided to follow his path. It is believed that Shivaji Maharaj granted him a Bundel sword. On the advice of Shivaji Maharaj, Chatrasal launched his revolt to distract the focus of the Mughals.

**Statement 2 is correct:** He also initiated a task to collect taxes from the defeated territories. Following the pattern set by the Marathas, Chhatrasal used this method to assert his control and support his resistance against the Mughal Empire.

**Statement 3 is correct:** In the year 1705, he signed a peace treaty with the Mughals and was given 4 Hazari Mansab.

**All the statements are correct. Hence, option (d)**

28. Consider the following statements about the Dutch trade in Mughal period:

1. The Dutch transported silk goods from Bengal through Hooghly
2. Cloves and nutmegs were collected at Surat by the Dutch and exported to Europe

Which of the statements given above is/are correct?

- (a) 1 only**

- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: A

**Statement 1 is correct:** Dutch power of Holland entered into the Hooghly port in 1632 for their trading activities. They established their settlement in Hooghly. After a few days, they moved their settlement from Hooghly to the adjacent area at Chinsurah. But the settlement of Chinsurah was known as the settlement of Hooghly. By 1653, the Dutch had firmly established themselves in Chinsurah, and by 1655, they set up an independent Bengal Directorate to trade in spices, sugar, silk, opium, saltpetre and cotton.

**Raw silk was one of the main goods** that the Dutch exported from Bengal. They transported various goods, including silk from Bengal, through the **port of Hooghly**, which was a significant trade center.

**Statement 2 is incorrect:** Surat was an important port for the Dutch, but cloves and nutmegs were not sourced from Surat. Instead, these spices were acquired from the Spice Islands (Indonesia). The Dutch transported these spices from their colonial holdings in the East Indies to Europe. Also, **Nutmeg is native of Molucces Island (Indonesia)** and **was introduced to India towards the end of the 18<sup>th</sup> century** and is grown now in certain pockets of Kerala, Tamil Nadu, and Karnataka.

29. Which naval forts were erected by Shivaji ?

- 1. Suvarnadurg
- 2. Vijayadurg
- 3. Sindhudurg
- 4. Kolaba

Select the answer using the code given below:

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

Answer: C

The following forts were erected or significantly developed by Shivaji Maharaj:

- 1. **Suvarnadurg:** meaning Golden Fort was built by the kings of Bijapur in the 17th century on a small island near Harnai between what is present-day Mumbai and Goa. It was **captured by Shivaji Maharaj** in 1660 by defeating Ali Adil Shah II.
- 2. **Vijayadurg:** **Originally a part of the Vijayanagar Empire**, Shivaji Maharaj fortified and expanded Vijayadurg, turning it into a significant naval fort. Originally known as Gheria, Shivaji Maharaj captured this fort from the Adil Shahi dynasty in 1653, renaming it Vijaydurg, meaning “Fort of Victory.” Hence, not erected by Shivaji Maharaj.



3. **Sindhudurg:** Located off the Malvan coast in Maharashtra, Sindhudurg Fort stands as one of Shivaji Maharaj's most remarkable naval achievements. Built on Kurte Island, construction commenced in 1664 and was completed in mere three years, showcasing Shivaji's commitment to rapid fortification.
4. **Kolaba:** Shivaji Maharaj also built or fortified Kolaba Fort, located near Alibag on the western coast of India. In 1662, he strengthened and fortified Kolaba fort to make it one of his chief naval stations.

Hence, option (c)

All of the forts make up the solution, assuming UPSC understands the word "erect" to imply reconstruct. In this instance, **option (a)** might also be an answer.

30. Which of the following statements about the economy of Assam in the medieval period is/are correct?

1. Ahoms cast excellent matchlocks and made first rate gunpowder and artillery pieces
2. Assam adopted new crafts of brass-casting and making granulated sugar during this period
3. Sarthebari village (in Kamrup) was known for its skill in metal casting

Select the answer using the code given below:

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

Answer: D

**Statement 1 is correct:** An Mughal account states in 1662: "They cast excellent matchlocks and *bachadar* artillery and show great skill in this craft. They make first-rate gunpowder...". Jean-Baptiste Tavernier even believed in that "it was from Assam that the use of gunpowder had entered the kingdom of China."

**Statement 2 is correct:** The Ahom dynasty, which began with the rule of Sukaphaa in the 13th century, is credited with fostering the growth of brass casting in Assam. The Ahom state made efforts to bring artisans and craftsmen from the rest of India into Assam and the Mughal influence introduced with arrival of new crafts like making **granulated sugar**, tailoring etc

**Statement 3 is correct:** Inscriptions also proved existence off bell-metal works. The bell-metal workers are known as Kahar. In Kamrup two main centres were Sarthebari and Hajo. Both were famous for brass and bell metal crafts respectively.

Hence, option (d)

31. Which one among the following biotechnologies is applied to manufacture pharmaceutical products Such as insulin, antibiotics and vaccines

- (a) White Biotechnology

(b) Red Biotechnology

(c) Green Biotechnology

(d) Blue Biotechnology

Answer: B

<b>Red Biotechnology</b>	Medical biotechnology which is applied to manufacture pharmaceutical products such as insulin, enzymes, antibiotics and vaccines.
<b>White Biotechnology</b>	Biotechnology applied to improve industrial processes and other production processes. The use of enzymes as industrial catalysts in eco-friendly manner for the production of valuable chemicals.
<b>Ancient Biotechnology:</b> Early knowledge of food, shelter, domestication	
<b>Different scientific</b>	

**Table 1.1: Some common names of areas covered under biotechnology**

<b>Blue Biotechnology</b>	Application of biotechnology for marine and freshwater organisms, which are used for increasing seafood supply, regulation of the reproduction of dangerous water-borne organisms, and developing new drugs.
<b>Green Biotechnology</b>	Application of biotechnology for environment-friendly solutions such as in plants to improve the nutritional quality, quantity and production of eco-friendly products. The transgenic plants with improved traits are the examples of green biotechnology.

Reference:-Class 11 Biotechnology ncert(chapter 1-Introduction to biotechnology)

32. In which organism did Gregor J. Mendel conduct the experiment to explain principles of inheritance?

(a) Groundnut

(b) Garden Pea

(c) Four 'o' clock plant

(d) Fruit fly

Answer: B

**The law of inheritance was proposed by Gregor Mendel** after conducting experiments on **pea plants** for seven years. Pea plants make a convenient system for studies of inheritance, and they are still studied by some geneticists today.

Reference:-Class 12 bio ncert(chapter-4 Genetics and evolution)

33. In which layer of the plant tissue Guard cells are present?

(?) Palisade mesophyll

(b) Spongy mesophyll

**(c) Epidermis**

(d) Xylem

Answer: C

**Guard cells** are a pair of **bean or kidney-shaped cells** which surround the stomata. Guard cells are pairs of **epidermal cells** that control gas diffusion by regulating the opening and closure of stomatal pores.

Reference: -Class 11 bio NCERT (Anatomy of flowering plant)

34. Identify the correct option from the following about the proportion of different gases in Biogas ?

**(a) Methane > Carbon dioxide > Nitrogen**

(b) Methane > Nitrogen > Carbon dioxide

(c) Methane > Oxygen > Carbon monoxide

(d) Nitrogen > Methane > Carbon dioxide

Answer: A

Biogas is formed by the decomposition of organic matter with the action of bacteria in the absence of oxygen. The components in biogas is as follows: **Methane 50-75%, Carbon dioxide 25-50%, Nitrogen 0-10%, Hydrogen 0-1%**. Hence, methane is the major component in biogas.

Reference:- Class 11 Bio ncert (Microbes in human welfare)

35. Which one of the following is the audible range of hearing for humans?

(a) 20kHz-200kHz

**(b) 20Hz-20kHz**

(c) 20Hz-35kHz

(d) 20Hz-40kHz

Answer: B

Humans can detect sounds in a frequency range from about **20 Hz to 20 kHz**. (Human infants can actually hear frequencies slightly higher than 20 kHz, but lose some high-frequency sensitivity as they mature; the upper limit in average adults is often closer to 15–17 kHz.

Reference:-Class 8 ncert science (chapter 10-sound)

36. In what form excess of glucose is stored in human body)?

- (a) Fructose
- (b) Glycogen**
- (c) Glucose
- (d) Starch

Answer: B

When **glucose is in excess**, the body stores it away in the **form of glycogen**, a glucose polymer, utilized **during fasting** in a process stimulated by **insulin**. **Glycogen** is a large highly branched structure, made from lots of glucose molecules linked together. When required, glycogen can be easily and rapidly broken down again to form glucose.

Reference:-Class 10 science ncert (chapter 5 Life processes)

37. Biotechnological research is promoted through the development of “Biotechnology Parks “.

Which of the following is/are essential to bring technology to market?

- 1. Development of new product
- 2. Entrepreneurship
- 3. Technology incubation

Select the answer using the code given below:

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

Answer: C

The Department of Biotechnology promotes innovative research & development activities in biotech sector and also helps to translate research into products and services. The **Biotechnology Parks**, offer facilities to Scientists, and Small and Medium sized Enterprises (SMEs) for **technology incubation**, technology demonstration and pilot plant studies for accelerated commercial development of innovative leads. The Department in partnership with State Governments/ State Government Organisations/Central Government Organisations has established Biotechnology Parks and incubators in different parts of the country to facilitate **biotech product development, entrepreneurship**, research and innovation.



38. Which one of the following is the correct chronology of invention /discovery in the field of Biotechnology?

**(a) Discovery of Plasmid, Double Helical structure of DNA, DNA fingerprinting, cloning of Dolly**

(b) Double Helical structure of DNA, Discovery of Plasmid, DNA fingerprinting, cloning of Dolly

(c) DNA fingerprinting, cloning of Dolly, Double Helical structure of DNA, Discovery of Plasmid

(d) Double Helical structure of DNA, DNA fingerprinting, Discovery of Plasmid, cloning of Dolly

Answer: A

1944	Avery, MacLeod and McCarty demonstrated that 'DNA is the genetic material'
1952	Joshua Lederberg Discovered ' <u>Plasmids</u> '
1953	Watson and Crick proposed ' <u>Double Helical structure of DNA</u> '
1960s	Werner Arber, Matthew Meselson discovered 'Type I restriction enzymes'

1975	Georges J.F. Köhler and César Milstein described the 'Hybridoma Technique' for production of monoclonal antibodies
1982	FDA approved world's first recombinant DNA Therapeutic Product 'Humulin' developed by Eli Lilly and Genentech
1983	Kary Mullis developed 'Polymerase Chain Reaction'
1984	Sir Alec Jeffreys invented ' <u>DNA Fingerprinting</u> '
1986	The first recombinant vaccine 'Recombivax HB' for Hepatitis B was approved for human use
1990	'Human Genome Project' officially initiated which was coordinated by the U.S. Department of Energy (DOE) and the National Institute of Health (NIH)
1994	The first genetically engineered crop 'Flavr Savr' tomato was introduced which was produced by Calgene in 1992
1996	Keith Campbell and Ian Wilmut cloned the first mammal from adult somatic cell using nuclear transfer ' <u>Dolly</u> ' (Sheep)

Reference:-Class 12 Biotechnology ncert(chapter 1 Recombinant DNA technology)

39. In an ecosystem why is the number of trophic levels of a food chain usually limited?

(a) Lower trophic level has lesser energy than the higher trophic level

**(b) Because of the loss of energy at each trophic level**

(c) Higher trophic level individual can control the lower ones more efficiently

(d) Limited trophic level makes a food chain less vulnerable to parasites

Answer: B



The ten percent rule states **that each trophic level can only give 10% of its energy** to the next level, the other 90% is used to live, grow, reproduce and is lost in environment. Since the amount of available energy becomes less as we move to higher trophic levels so **very little usable energy remains after four trophic levels**. That's why the food chain has only 3 to 4 trophic levels.

Reference:-Class 12 bio ncert (chapter 12 Ecosystem)

40. Which one of the following structures is NOT found in prokaryotes?

(a) **Nuclear envelope**

(b) Cell membrane

(c) Ribosome

(d) cell

Answer: A

Prokaryotes are the primitive organisms which **lack membrane-bounded organelles and nucleus**. A **nuclear membrane, also known as the nuclear envelope**, nucleolemma or karyotheca, is the double lipid bilayer membrane, which surrounds the genetic material and nucleolus in eukaryotic cells.

Reference:-Class 11 bio ncert( chapter 8 Cell)

41. Consider the following statements regarding the rotation of the Earth :

1. Since the Earth rotates by  $15^\circ$  each hour, time zones normally differ by one hour
2. At the International Date Line, the calendar day changes — advancing a day for eastward travel, dropping back a day for westward travel
3. Daylight saving time advances the clock by one hour
4. The Moon rotates and revolves about the Earth in the same direction that the Earth revolves around the Sun

Which of the statements given above is/are correct ?

(a) 1 only

(b) 3 and 4 only

(c) **1, 3 and 4**

(d) 2, 3 and 4

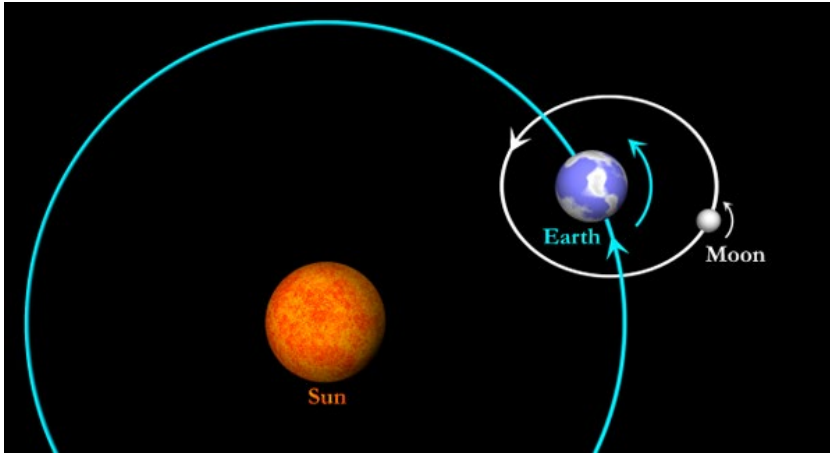
Answer: C

**Statement 1: (Correct)** The earth covers an angle of  $360^\circ$  with every rotation within the span of 24 hours. This indicates that it rotates by  $15^\circ$  every hour. Thus, for the purpose of convenience, time zones have been split into 24 equally-spaced time zones.

**Statement 2: (Incorrect)** At the International Date Line, the calendar day changes — advancing a day for westward travel, dropping back a day for eastward travel.

**Statement 3: (Correct)** Daylight saving time (DST) is the practice of advancing clocks during summer months by one hour.

**Statement 4: (Correct)**



Reference:-Class 6 Social science ncert(chapter 1 Locating places on earth)

42. Which of the following statements regarding faunal resources of India is/are correct ?

1. High degree of endemism has been noticed in the biodiversity hotspots of India.
2. Of the total biosphere reserves in India, the Sundarbans has the largest number of species and Nokrek has the smallest number of species

Select the answer using the codes given below :

(a)1 only

(b)2 only

(c)Both 1 and 2

(d)Neither 1 nor 2

Answer: A

Coined by **Norman Myers**, the term “**Biodiversity hotspots**” can be defined as the regions which are known for their **high species richness** and **endemism**.

Statement 2-**smallest number of species** is in Great Nicobar biosphere/DibruSaikhowa biosphere reserve.

Reference:-Class 12 bio ncert (Chapter 15 Biodiversity and Conservation)

43. Consider the following characteristics of a type of wind :

1. They occur at upper levels in the atmosphere
2. They are subjected to two forces, a pressure gradient force and the Coriolis force
3. When the forces balance, air moves at right angles to the pressure gradient, parallel to the isobars

Identify the type of wind on the basis of the given characteristics:

(a) Jet Stream

**(b) Geostrophic Wind**

(c) Westerlies

(d) Easterlies

Answer: B

The velocity and direction of the wind are the net result of the wind generating forces. The winds in the upper atmosphere, 2 - 3 km above the surface, are free from frictional effect of the surface and are controlled mainly by the pressure gradient and the Coriolis force. When isobars are straight and when there is no friction, the pressure gradient force is balanced by the Coriolis force and the resultant wind blows parallel to the isobar. This wind is known as the geostrophic wind (Figure 10.4).

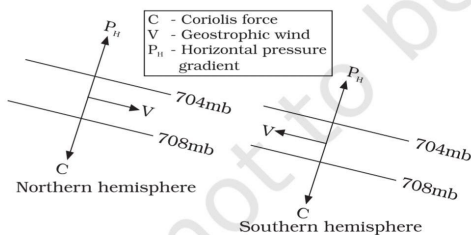


Figure 10.4 : Geostrophic Wind

Reference:-Class 11 geo ncert (Chapter 10 Atmospheric circulation and weather system)

44. Where does podsolization take place?

**(a) Regions in high middle latitudes**

(b) Coastal regions in lower latitudes

(c) Regions with hot and humid climate

(d) Regions having arid climate

Answer: A

**Podsolization** is usually associated with **cold climates**, especially in **coniferous or boreal forests** such as **taiga**. Podsolization, a type of severe leaching, results in the release of iron and aluminum sesquioxides. This mechanism is more common where precipitation exceeds evapotranspiration.

Reference:- Indian & World Geography Chapter 1- Indian Institute of Public Administration.

45. Which one of the following statements with reference to the Nebular Hypothesis for the origin of Solar System is correct?

- (a) The initiation of the nebular hypothesis can be considered as a diffuse, roughly spherical, slowly rotating expanding nebula
- (b) As a result of rotation and expansion, a disk is formed with matter concentrated in the center.
- (c) Expansion continues with the formation of the proto-Sun and the rings of material are left behind
- (d) The material in the rings get condensed and form the planets that revolve in orbits around the Sun.**

Answer: D

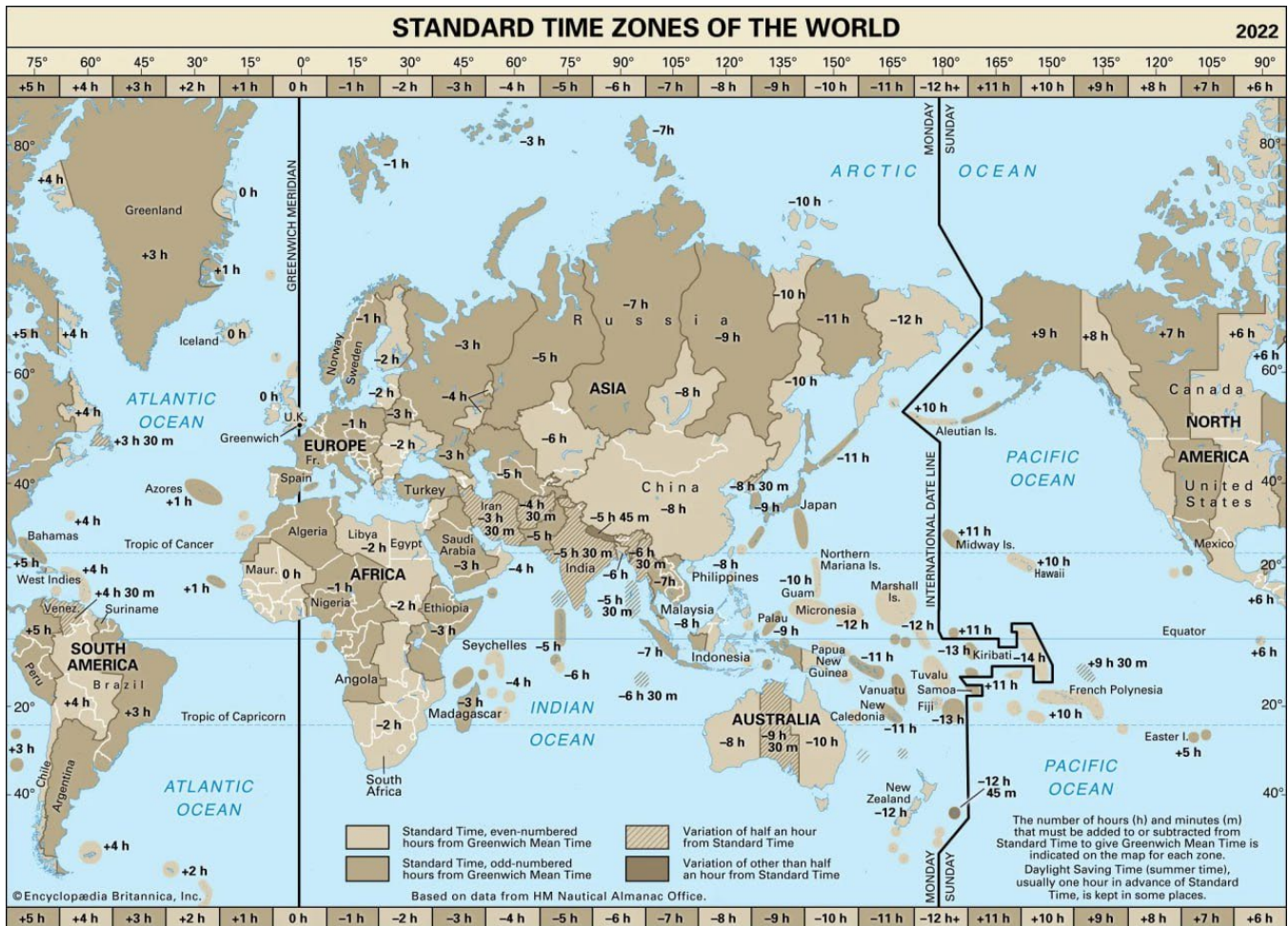
Process of accretion and formation of localised clump led to formation of planets with greater condensed form in center leading to formation of sun with planets revolving around the sun.

Reference:-Class 11 geo ncert (Chapter 2 Origin and evolution of earth)

46. If it is 31st December, 2023 in New Zealand, at the same time what will be the date in the Hawaiian Islands and Alaska?

- (a) Both have 01 January, 2024
- (b) Both have 30 December, 2023**
- (c) 31 December, 2023 in Alaska and 01 January, 2024 Hawaiian Islands
- (d) 31 December, 2023 in Hawaiian Islands and 01 January, 2024 in Alaska

Answer: B



47. Which one of the following statements with reference to hailstones is NOT correct?

- (a) Their formation usually occurs during the monsoon season
- (b) They are associated with dense cumulonimbus clouds
- (c) Rain that forms in the warmer, upper layer solidifies into tiny ice pellets or hailstones in the lower, subfreezing layer.
- (d) Hailstones have multiple, concentric layers of ice.

Answer: A

During the monsoon, the cloud freezing level is greater and the surface temperature is very warm, thus hail melts back into water droplets or rain before reaching the surface. This explains why **hail does not occur in India during the monsoon season.**

Hail forms in thundercloud when drops of water are continuously taken up and down through the cloud by updraughts and downdraughts. When they go to the top of the cloud, it is very cold and they freeze. As the updraughts in thunderclouds are very big, they can keep these hailstones for a long time, so they get larger and larger by becoming coated with more and more ice.



When the hailstones get really big, the updraughts in the cloud cannot hold them up anymore and they fall to earth, and by this time they are big balls of ice, and don't have time to melt before they reach the ground.

Reference: Class 11 ncert (chapter 9-Solar radiation,Heat balance and temperature)

48. Match List I with List II and select the correct answer using the code given below the Lists :

List I

List II

(Ocean Current)

(Location)

A. Kuroshio Current.

1.Antarctic ocean

B. Agulhas current

2.Pacific ocean

C.East Wind Drift.

3.Atlantic ocean

D.Antilles current.

4.Indian ocean

Code:

	A.	B.	C.	D
a.	3.	4.	1.	2
b.	3	1.	4.	2
c.	2.	1.	4.	3
<b>d.</b>	<b>2.</b>	<b>4.</b>	<b>1.</b>	<b>3</b>

Answer: D

112

FUNDAMENTALS OF PHYSICAL GEOGRAPHY

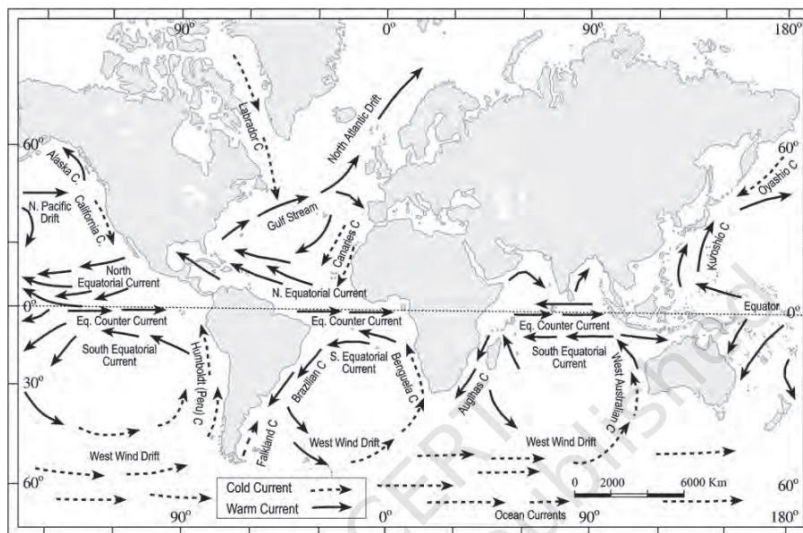


Fig. 13.3 : Major currents in the Pacific, Atlantic and Indian oceans

Reference:--Class 11 geo ncert(Chapter 14-Movenent of ocean water)

49. With reference to 'Black Tigers', which of the following statements is/are correct ?

1. They are also referred to as Melanistic Tigers
2. In India they are found only in Similipal Tiger Reserve in Odisha

Select the answer using the code given below :

- (a) 1 only  
(b) 2 only  
**(c) Both 1 and 2**  
(d) Neither 1 nor 2

Answer: C

Explanation:

➤ **'Black Tiger Safari'**: In a groundbreaking move, **Odisha Chief Minister Naveen Patnaik** has unveiled plans for the establishment of the world's first **'black tiger safari'** near the **Similipal Tiger Reserve (STR) in Mayurbhanj**. This visionary project aims to provide tourists and visitors with a rare glimpse of the **melanistic tigers**, commonly known as **black tigers**, recently spotted at the Similipal National Park.

Reference: January 2024 Current Tit-Bits Magazine by OneClass.in (Mission CAPF Hub)

50. Which one of the following statements about the Singareni Collieries Company Limited is correct ?

- (a) Located at Kothagudem in Telangana, this is the first and the oldest coal mining company in India in the private sector.
- (b) It has now diversified into thermal and solar power generation, explosive manufacturing for blasting in opencast mines and consultancy works**
- (c) It has been conferred with Navratna status since 2011
- (d) It is the single largest coal producing company in the world.

Answer: B

**Singareni Collieries Company Limited (SCCL)** is first and the oldest government owned coal mining company in the country with registered office at **Kothagudem in Telangana**. The equity of the company is held by the Telangana government (51 per cent) and the Government of India (49 per cent). The core business of SCCL is coal mining. However, the company is **diversified into Thermal power generation, explosive manufacturing, sand processed from overburden, solar power generation**, etc.

**CIL** is the single largest coal producing company in the world.

**Coal India Limited (CIL)** is a 'Maharatna' company under the Ministry of Coal, with headquarters at Kolkata, West Bengal.

Reference: India Year Book (IYB)

51. Which of the following processes is/are part of the Rock Cycle ?

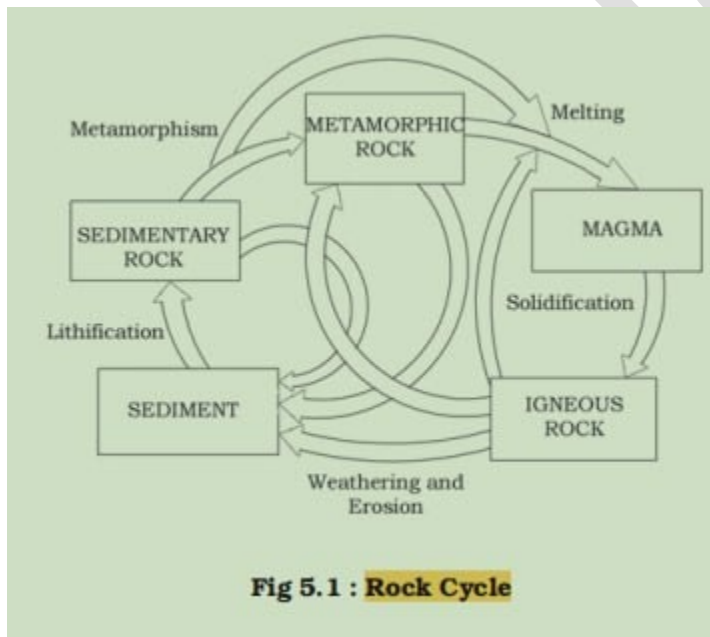
1. Lithification
2. Metamorphism
3. Solidification

Select the answer using the code given below :

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

**(4) 1, 2 and 3**

Answer: D



Reference:-Class 11 geo ncert (Chapter 5- Minerals and rock)

52. Consider the following statements regarding the temperature of the Earth's surface :

1. The temperature of a surface is determined by net radiation
2. Net radiation produces a radiant energy flow that can heat or cool a surface
3. Net radiation balance is usually positive during the daytime and negative during night time

4. Soil surface loses energy as temperature increases during the daytime

Which of the statements given above are correct?

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

Answer: D

**Net radiation** determines whether a specific area gains or loses heat over time.

**Net radiation** can be **positive, negative, or even zero**. Net radiation is a positive value when there is more incoming radiation than outgoing radiation.

Reference: -Class 11 ncert(Solar radiation, Heat balance and temperature)

53. Consider the following statements:

1. Black soil is considered suitable for growing rain-fed crops
2. Black soil can retain moisture for a prolonged period, aiding crops to survive even in dry seasons

With regard to the statements given above which of the following is/are correct ?

- (a) Both the statements are correct and statement 2 is the correct explanation of statement 1**
- (b) Both the statements are correct and statement 2 is NOT the correct explanation of statement 1
- (c) Statement 1 is correct but statement 2 is false
- (d) Statement 1 is false but statement 2 is correct

Answer: A

## SOILS

western part of the Deccan Plateau, the **black soil** is very deep. These soils are also known as the 'Regur Soil' or the 'Black Cotton Soil'. The **black soils** are generally clayey, deep and impermeable. They swell and become sticky when wet and shrink when dried. So, during the dry season, these soil develop wide cracks. Thus, there occurs a kind of '*self ploughing*'. Because of this character of slow absorption and loss of moisture, the **black soil** retains the moisture for a very long time, which helps the crops, especially, the rain fed ones, to sustain even during the dry season.

Reference:- 11<sup>th</sup> NCERT- India Physical Environment, Chapter 6 - Soil.

54. Which one of the following countries is not a part of the Arabian Peninsula?

- (a) Kuwait
- (b) Oman
- (c) Libya**
- (d) Yemen

Answer: C



55. With reference to 'South Coast of Australia' which of the following statements is/are correct ?

1. It is situated along the Indian ocean
2. It experiences rain during its winter months of December and January

Select the answer using the code given below:

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2**

Answer: D

South Coast of Australia is situated in the direction of **Antarctic Ocean** and Australis receives rain during the month of December to march. December January month is **summer** time in Australia.

Reference:-Koeppen classification



56. Which one among the following is NOT a non-procedural computer language ?

- (a) LISP
- (b) Python**
- (c) Prolog
- (d) ML

Answer: B

Examples of **non-procedural language** includes **LISP, SQL, PROLOG**. **Python** is both **procedural** and have object-oriented features, as well as some aspects of functional programming.

Reference:--[geeksforgeeks.org>difference between procedural and non-procedural language](https://www.geeksforgeeks.org/difference-between-procedural-and-non-procedural-language/)

57. Consider the following:

1. MPEG
2. P\*64
3. Indeo

Which of the above can be used to compress video files?

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

Answer: B

MPEG formats can be used to compress files, specifically multimedia files such as audio and video, Indeo can be used to compress video files

58. Which one among the following has largest energy per photon?

- (a) X-ray**
- (b) Ultra-violet ray
- (c) Visible-ray
- (d) Infra-red ray

Answer: A

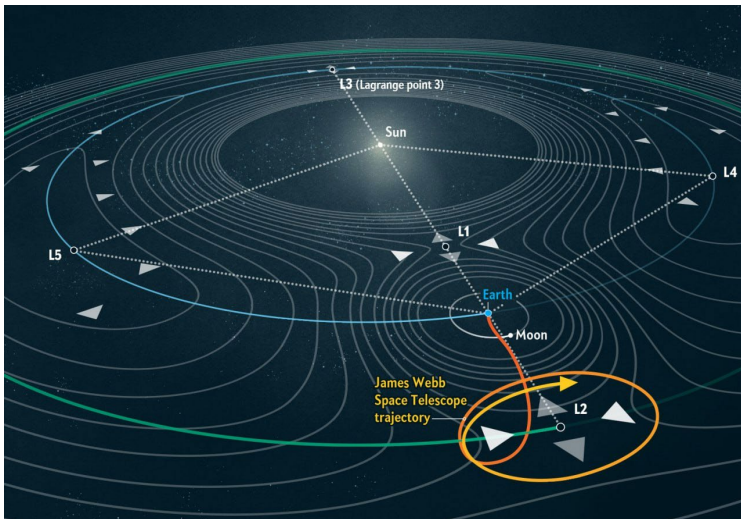
Energy per photon (Gamma rays > X rays > UV rays > visible rays > infra Red rays)

Reference:-Class 12 NCERT Physics(chapter 8 Electromagnetic waves)

59. In Sun-Earth system, the distance Between Lagrange points L2 and L3 is About:

- (a) 15 Lakh kilometer
- (b) 30 lakh kilometers
- (c) 16 crore kilometer
- (d) 32 crore kilometer**

Answer: D



Lagrange Point 3 is about 186 million miles (300 million km) from us. Both L4 and L5 are about 19 million miles (30 million km) from Earth. Given the relatively short distances to the Earth-sun L1 and L2 points, they can be easily accessed by spacecraft.

60. With regard to greenhouse effect is Correct ?

- (a) It can take place inside a glass chamber where no radiation can pass into it or pass back through it
- (b) It can take place inside a glass chamber where long wavelength infrared radiation can pass through into it and short wavelength infrared radiation cannot pass back through it
- (c) It can take place inside a glass chamber where short wavelength infrared radiation can pass through into it and long wavelength infrared radiation cannot pass back through it**
- (d) It can take place inside a glass chamber where all infrared radiation can pass into it or pass back through it

Answer: C

**Greenhouse effect** is caused due to trapping of heatwave in form of long waves while the short wavelength rays can easily enter the place. Greenhouse gases act similarly to the glass in a greenhouse: they absorb the sun's heat that radiates from the Earth's surface, trap it in the atmosphere and prevent it from escaping into space. The greenhouse effect keeps the Earth's temperature warmer than it would otherwise be, supporting life on Earth.

Reference:- Geography ncert Chapter 14 Natural resources

61. A canon shoots a ball upwards with an initial speed of 100 m/s. The total time of flight of the ball is 20 s before it hits the ground. The ball loses 70% of its speed on hitting the ground. Which among the following is the correct height that the ball will bounce up after its first bounce ? 10 m/s<sup>2</sup>)

- (a) 100 m
- (b) 70m
- (c) 50m
- (d) 45m**

Answer: D

62. Which one of the following statements correctly defines PM<sub>1</sub> particles in air ?

- (a) These are suspended particles of diameter more than 10 micron
- (b) These are the particles that are filtered by the nose during respiration
- (c) These are extremely fine particles of diameter less than 1 micron**
- (d) These are coarse particles that penetrate directly through the lungs into the bloodstream

Answer: C

PM<sub>1</sub> measures particulate pollutants smaller than 1 micron. Like other fine particles, it can cause damage to the heart, lungs, and other organs in the body.

Reference- [www.epa.gov/pm-pollution](http://www.epa.gov/pm-pollution)

63. Which one of the following heat transfer mechanisms does NOT require a medium ?

- (a) Conduction
- (b) Convection
- (c) Radiation**
- (d) Collision

Answer: C

In radiation, heat is transferred in the form of waves or rays; it does not require any material medium. It takes place by electromagnetic radiation.

Reference:- NCERT class 11 Physics (Chap 10 Thermal properties of matter)

64. Which one of the following statements about the solstices, an event that occurs when the Sun appears to reach most northerly or southerly, is correct ?

- (a) The winter solstice takes place on June 21 in both the northern and southern hemisphere

(b) The winter solstice takes place On December 21 in both the northern and southern hemisphere

**(c) The summer solstice occurs in northern hemisphere on June 21 and on December 21 in southern hemisphere**

(d) The summer solstice occurs in northern hemisphere on December 21 and on June 21 in southern hemisphere

Answer: C

Summer solstice is the day with longest period of daylight and shortest night of the year, when suitable is at its highest position. In northern hemisphere, this is June solstice on 21 June and in the southern hemisphere this is December solstice (21/22 December).

Reference: - Class 6 NCERT (Motions of the Earth chapter 3), but NCERT mentions winter solstice as December 22 but the question does not mention it.

65. Which one among the following does NOT have any linkage with the Phenomenon of electromagnetic induction ?

(a) Electric transformer

(b) Induction cooker

(c) Galvanometer

**(d) Electron microscope**

Answer: D

Electric transformer, induction induction and Galvanometer work on the principle of electromagnetic induction while electron microscope works with use of lenses.

Reference: - Class 12 NCERT Chapter 6 Electromagnetic induction

66. Which one among the following statements about matter is NOT correct ?

(a) On increasing the temperature of solids, the kinetic energy of particles increases

**(b) The maximum temperature at which solid melts to become a liquid at atmospheric pressure is called its melting point**

(c) Particles or steam have more energy than water at 100°C

(d) Direct change of gas to solid is called deposition

Answer: B

**Melting Point:** The temperature at which a solid substance melts and changes into a liquid at atmospheric pressure. The melting point of ice on the Celsius scale of temperature is 0 °C i.e., zero degrees Celsius.

67. The isotope of which one among the following elements is used in the treatment of cancer ?

(a) Uranium

**(b) Cobalt**

(c) Iodine

(d) Fluorine

Answer: B

**Cobalt therapy** is the medical use of Gamma rays from the **Cobalt-60** to treat conditions such as cancer.

Reference:-ScienceDirect.com

68. Water is a good solvent for dissolving ionic compounds because

(a) It has a high specific heat

(b) It has no colour

**(c) It has a high dipole moment**

(d) It has a high boiling point

Answer: C

**Water has a high dipole moment** because of its **polar nature**. The oxygen atom is more electronegative than the hydrogen atoms, which creates a significant dipole moment. This strong dipole moment allows water molecules to **interact with and stabilize the charged ions of ionic compounds**, thus effectively **dissolving them**.

Reference:-Chemical bonding and molecular structure

69. Which among the following is correct with respect to bond formation in an ethyne molecule ?

(a) Carbon-Carbon single bond

(b) Carbon-Carbon double bond

**(c) Carbon: Carbon triple bond**

(d) Carbon-Hydrogen double bond

Answer: C

Ethyne,  $C_2H_2$ , has a triple bond between the two Carbon atoms, each of which is singly bonded to one other hydrogen atom.

Reference :-NCERT unit 13 Hydrocarbon



70. Which among the following are the main ingredients for manufacturing of glass?

- (a) **Silica, sodium carbonate, borax, alumina and cullet**
- (b) Iron oxide, lead, sodium bicarbonate, alumina and cullets
- (c) Magnesium carbonate, alumina, silica and cullets
- (d) Iron oxide, sodium, alumina, silica and cullets

Answer: A

The main ingredients used in the manufacturing of glass typically include:

**Silica** ( $\text{SiO}_2$ ): The **primary component** of glass, which forms the bulk of the glass matrix.

**Sodium carbonate** ( $\text{Na}_2\text{CO}_3$ ): Also known as soda ash, it lowers the melting temperature of silica, making the glass easier to melt and shape.

**Lime** (calcium carbonate,  $\text{CaCO}_3$ ): Added to stabilize the glass and improve its durability.

**Cullets**: Recycled glass that is added to the mix to improve the melting process and reduce energy consumption.

**Borax and alumina** are sometimes used in specific types of glass, but **silica, sodium carbonate, and cullets** are the **primary ingredients**.

71. Which one among the following statements with respect to the atomic number of an atom is correct ?

- (a) The number of neutrons is same as atomic number
- (b) The sum of electrons and neutrons is same as atomic number
- (c) **The number of protons is same as atomic number**
- (d) The sum of protons and neutrons is same as atomic number

Answer: C

Atomic number equals to number of protons e.g. nitrogen has 7 protons and its atomic number is also 7, while mass number refers to sum of protons and neutrons.

Reference:-Chemistry ncert class 11 chapter 4 Structure of atom

72. Which one among the following is an example of endothermic process?

- (a) Combustion of carbon
- (b) Mixing acid and alkali
- (c) **Photosynthesis**
- (d) Respiration

Answer: C

**Photosynthesis** is an **endothermic reaction** because it **absorbs heat from sunlight to convert carbon dioxide** and water into glucose and oxygen.

Reference:- Class 10 science ncert Chapter 4 Plant physiology

73. Which one among the following is used in the manufacture of ultra-violet protective glasses?

- (a) Aluminium oxide
- (b) Tungsten oxide
- (c) Molybdenum oxide

**(d) Cerium oxide**

Answer: D

Cerium oxide (crooked glass) sharply absorbs the UV rays from the sunlight so utilized in making lenses of eye glasses.

74. Match List I with List II and select the correct answer using the code given below the Lists :

List I.

List II

(Pigment in paint)

(Example)

A. Natural pigment.

1. Chalk

B. Synthetic pigment.

2. White lead

C. Reactive pigment.

3. Red lead

D. Inert pigment.

4. Titanium dioxide

Code : A. B. C. D

(a) 1. 2. 3. 4

(b) 1. 3. 2. 4

(c) 4. 3. 2. 1

**(d) 4. 2. 3. 1**

Answer: D

**Red lead** reacts upon some pigments that contain free amounts of Sulphur, the most commonly used **inert** are **Chalk** or calcium carbonate pigments ( $\text{CaCO}_3$ ), **lead white** is basic lead carbonate, but its occurrence in nature is rare, so lead white is mostly **synthetically made**.

Reference:- Britannica/Wikipedia

75. Match List I with List II and select the correct answer using the code given below the

Lists I	List II
(Element)	(Unpaired electron)
A. Boron.	1.Zero
B. Nitrogen	2.Two
C. Oxygen.	3.One
D. Neon.	4.Three

Code:

- |     |    |    |    |   |
|-----|----|----|----|---|
|     | A. | B. | C. | D |
| (a) | 1. | 4. | 2. | 3 |
| (b) | 1. | 2. | 4. | 3 |
| (c) | 3. | 2. | 4. | 1 |
| (d) | 3. | 4. | 2. | 1 |

Answer: D

Neon is noble gas and its octate is complete, Nitrogen outer most shell needs 3 electron, Oxygen need 2, while Boron need 1.

Reference:-Periodic table

76. The remainder, when  $1 + (1 \times 2) + (1 \times 2 \times 3) + \dots + (1 \times 2 \times 3 \times \dots \times 500)$  is divided by 8, is

- (a) 1  
(b) 2  
(c) 3  
(d) 4

Ans-A

Explanation –

**Ques-76**  
Explanation:-

$$1 + (1 \times 2) + (1 \times 2 \times 3) + \dots + (1 \times 2 \times 3 \times 4 \times \dots \times 500) / 8$$

$8 = 2 \times 4$

$$1 + (1 \times 2) + (1 \times 2 \times 3) + (1 \times 2 \times 3 \times 4) + (1 \times 2 \times 3 \times 4 \times 5) + \dots + (1 \times 2 \times 3 \times 4 \times \dots \times 500)$$

$(1) + (2) + (6) + [ \dots ] \rightarrow R = 0$

$\frac{9}{8} + \frac{\square}{8}$

$R = 1 + 0 = 1$  Ans - A

77. The angle (in degrees) made by a sector having area one-sixth of the area of a semicircle is

(a)  $15^\circ$

**(b)  $30^\circ$**

(c)  $45^\circ$

(d)  $60^\circ$

Ans-B

Explanation –

**Ques-77**  
Explanation:-

Area of  $\text{Arc} = \frac{1}{6}$  of Area of Semicircle

$\frac{1}{2} r^2 \theta = \frac{1}{6} \times \frac{1}{2} \times \pi r^2$

$\theta = \frac{\pi}{6} \Rightarrow \frac{180^\circ}{6}$

$\theta = 30^\circ$  Ans - B

Semicircle  
(Area =  $\frac{1}{2} \pi r^2$ )

78. Which one of the following is the average of first five multiples of each of the numbers from 11, 12, 13, ....20?

(a) 40.5

(b) 42.5

(0) 44.5

**(d) 46.5**

Ans-D

Explanation

**Q-78**  
Explanation:-  
Average of First five multiples of each of  
11, 12, 13, 14 - - - 20  $\Rightarrow$

$$\begin{aligned}
 & (11 \times 1) + (11 \times 2) + (11 \times 3) + (11 \times 4) + (11 \times 5) \\
 & (12 \times 1) + (12 \times 2) + (12 \times 3) + (12 \times 4) + (12 \times 5) \\
 & \vdots \\
 & (19 \times 1) + (19 \times 2) + (19 \times 3) + (19 \times 4) + (19 \times 5) \\
 & (20 \times 1) + (20 \times 2) + (20 \times 3) + (20 \times 4) + (20 \times 5)
 \end{aligned}$$

$$\begin{aligned}
 & + \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \\
 & 1(11+12+13+\dots+20) + 2(11+12+13+\dots+20) + 3(11+12+\dots+20) + 4(11+12+\dots+20) + 5(11+12+\dots+20)
 \end{aligned}$$

$$\begin{aligned}
 & (11+12+13+\dots+20) \times (1+2+3+4+5) \\
 & \quad \quad \quad 155 \quad \quad \quad 15
 \end{aligned}$$

$$\text{Avg} = \frac{155 \times 15}{50} = \frac{465}{10} = \boxed{46.5}$$

79. Which of the following statements is/are correct?

1. The average of four numbers 10, 15, 20 and 25 is 17.5

2. If a, b and c are three different natural numbers such that  $a + b + c = abc$ , then the average of a, b and c is 3

Select the answer using the code given below :

**(a) 1 only**

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Ans-A



## Explanation

**Q.79**  
Explanation:-  
(Statement-1)  $\Rightarrow$   
$$\text{Avg} = \frac{10+15+20+25}{4} = \frac{70}{4} = 17.5$$
  
 $\rightarrow$  Correct  
(Statement-2)  
 $a+b+c = abc$   
 $1+2+3 = 1 \times 2 \times 3 = 6$   
$$\text{Avg of } a, b, c \Rightarrow \frac{a+b+c}{3} = \frac{1+2+3}{3} = \frac{6}{3} = 2$$
  
 $\rightarrow$  Incorrect  
**Ans  $\Rightarrow$  1 only Correct**

80. The ratio of present ages (in years) of X to Y is equal to the ratio of present ages (in years) of Y to Z. If the present age of Y is 15 years, then which of the following can be the sum of the ages (in years) of X, Y and Z?

- (a) 35
- (b) 40
- (c) 49**
- (d) 55

Ans-C

## Explanation

Q-80

Explanation:-

Given  $\frac{x}{y} = \frac{y}{z}$  &  $y = 15$

$$xz = y^2$$

$$xz = 15 \times 15$$

$$xz = 5 \times \underbrace{3 \times 3}_{9} \times 5$$

(25)

$$\begin{aligned} x &= 9 \\ z &= 25 \end{aligned}$$

Ans  $\Rightarrow x + y + z = 9 + 15 + 25 = 49$

81. If  $x + \frac{1}{x} = 2$ , then which one of the following is the value of  $x^{32} + \frac{1}{x^{32}}$

(a) -1

(b) 0

(c) 1

(d) 2

Ans-D

Explanation

Q-81

$$x + \frac{1}{x} = 2$$

i.e.

$$x = 1$$

Now,

$$x^{32} + \frac{1}{x^{32}}$$
$$1^{32} + \frac{1}{1^{32}} = 1 + 1 = 2$$

82. A shopkeeper sold a product at 30% loss. Had his selling price been 150 more, he would have made a profit of 10%. What was the cost price?

(a) 375 rs

(b) 400 rs

(c) 425 rs

(d) 450 rs

Ans-A

Explanation:

**Q-82**  
Explanation:-

Let  $CP = 100$

Item	Cost Price (CP)	Selling Price (SP)
30% loss	70	70
10% profit	110	110

Given:  $40 \rightarrow 150 \text{ ₹}$

$20 \rightarrow 75 \text{ ₹}$   
 $\times 5$

$CP \ 100 \rightarrow 375 \text{ ₹}$

**Ans  $\Rightarrow 375$**

83. A, B and C can finish a work in 20, 25 and 30 days, respectively. They start working together but B quits after working for 3 days. In how many days from the start shall the work be completed?

- (a)  $9 \frac{8}{15}$  days
- (b)  $10 \frac{1}{15}$  days
- (c)  $10 \frac{14}{25}$  days**
- (d)  $11 \frac{1}{10}$  days

Ans-C

Explanation



Q.83

explanation:-

A 20  
B 25  
C 30

300

Total work  
LCM of (20, 25, 30)

efficiency

$$15 \Rightarrow 300/20$$

$$12 \Rightarrow 300/25$$

$$10 \Rightarrow 300/30$$

$$\frac{\text{total work}}{\text{No. of Days}}$$

A+B+C	B → Quit
3 Days	A+C

15+12+10  
→ 37 × 3  
↓  
111

Remaining work  
300  
- 111  
189

189 by A+C  
↓ ↓  
15 10

time =  $\frac{189}{15+10}$

$$= \frac{189}{25}$$

↓

$$7 \frac{14}{25}$$

total Days ⇒  $3 + 7 \frac{14}{25}$

$10 \frac{14}{25}$



84. Two taps A and B can fill a tank with water in 20 minutes and 15 minutes, respectively. A third tap C can empty the full tank in 6 minutes. After the taps A and B fill the tank for 5 minutes, the tap C is opened to empty while A and B continue to fill it. In how many minutes after the start shall the tank get empty?

- (a)  $10 \frac{1}{3}$  minutes
- (b)  $10 \frac{2}{5}$  Minutes
- (c)  $10 \frac{4}{5}$  Minutes
- (d)  $11 \frac{2}{3}$  Minutes**

Ans-D

Explanation

**Q.84**  
 explanation:-

+ → fill  
 - → empty

A	+20
B	+15
C	-6

efficiency  
 $\downarrow$   
 $\frac{60}{20} \rightarrow +3$   
 $\frac{60}{15} \rightarrow +4$   
 $\frac{60}{6} \rightarrow -10$

**60** (Total Capacity of Tank)  
 LCM of (20, 15, 6)  
 → Total Capacity of Tank

5 min.	A+B+C
A+B	3+4-10
3+4	(-3)
7 × 5	
(35)	

$\frac{35}{-3} = 11 \frac{2}{3} \text{ min. empty}$

**Ans →  $11 \frac{2}{3} \text{ min.}$**

85. A and B start at the same time to reach the same destination. B travelled at  $\frac{5}{7}$  of A's speed and reached the destination 1 hour 20 minutes after 1. What was the time taken by B to reach the destination?

(a) 4 hours. 40 minutes

(b) 4 hours 55 minutes

(c) 5 hours 5 minutes

(d) 5 hours 15 minutes

Ans-A

Explanation

**Q.85**  
Explanation:-  
Same Destination  $\frac{i.e.}{\text{Distance}}$  Same  
 $\text{speed} = \frac{\text{Distance}}{\text{time}} \rightarrow \text{Same}$   
Given  
 $S_B = \frac{5}{7} S_A$   
 $\frac{S_A}{S_B} = \frac{7}{5}$   
Speed  
A  $\rightarrow 7$   
B  $\rightarrow 5$   
time  
5  $\rightarrow 1 \text{ hr } 20 \text{ min} \Rightarrow 1 + \frac{1}{3} = \frac{4}{3} \text{ hr}$   
7  $\rightarrow \frac{2}{3} \text{ hr}$   
 $\hookrightarrow 1\frac{4}{3} \text{ hr} \rightarrow \boxed{4 \text{ hr } 40 \text{ min.}}$

86. There was a hike in petrol price by 12%. By how much percentage should a person decrease his petrol consumption such that there is no change in his expenditure on petrol?

(a) 8.6%

(b) 9.8%

(c) 10.7%

(d) 12%

Ans-C

Explanation

Q.85

Explanation:-

12% hike

$$\frac{12}{100} \times \frac{3}{25} = \frac{3}{250}$$

Price  $\times$  Consumption = Expenditure

$$25 \times 28 = \square$$

$$28 \times 25 = \square$$

same

$$\frac{-3}{28} \times 100$$

$$\frac{300}{28} \% \downarrow \text{eg}$$

10.7% Ans.

87. If  $19a + 19b + 19c = 437$ , then what is the mean of a, b and c?

(a) 6.33

**(b) 7.66**

(c) 9.33

(d) 11.55

Ans-B

Explanation



**Q.87**  
explanation:-

$$19a + 19b + 19c = 437$$
$$a + b + c = \frac{437}{19}$$
$$a + b + c = 23$$

Now, mean of  $a, b, c = \frac{a+b+c}{3}$

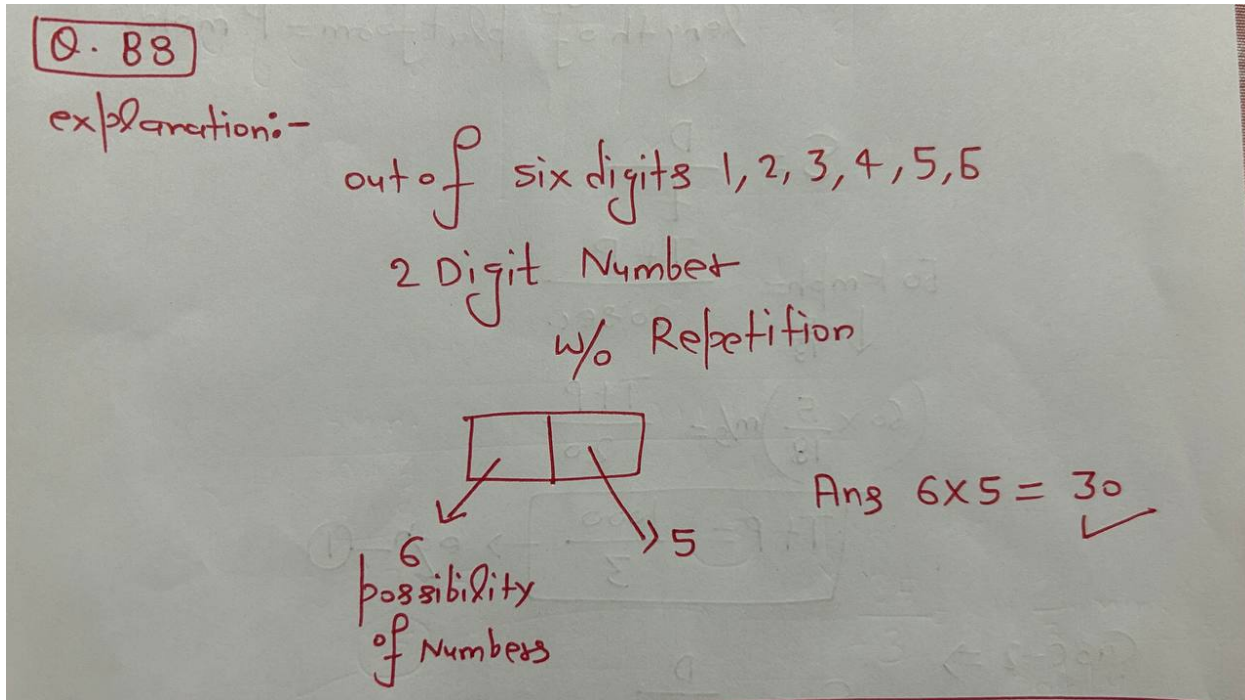
$$= \frac{23}{3} = 7.66 \checkmark$$

88. Out of the six digits 1, 2, 3, 4, 5 and 6; how many two digit numbers can be formed without repetition of digits?

- (a) 6
- (b) 15
- (c) 30**
- (d) 40

Ans-C

Explanation



89. A train travelling at a speed of 60 km/hr crosses a platform in 20 seconds. The same train crosses a person who is walking at a speed of 6 km/hr in the same direction as that of the train in 12 seconds. What is the length of the train and that of the platform, respectively ?

- (a) 160 m and 153.33 m
- (b) 170 m and 166.66 m
- (c) 180 m. and 153.33 m**
- (d) 180 m and 170 m

Ans-C

Explanation

Q.89

Explanation:-

Case-1  $\Rightarrow$  Let  $\rightarrow$  length of Train = T meter  
length of platform = P meter

$$S = \frac{D}{t}$$

$$60 \text{ kmph} = \frac{T+P}{20 \text{ sec.}}$$

$$\downarrow \times \frac{5}{18}$$

$$\left(60 \times \frac{5}{18}\right) \text{ m/s} = \frac{T+P}{20}$$

$$\boxed{T+P = \frac{1000}{3}} \rightarrow \text{eqn-①}$$

Case-2  $\Rightarrow$

$$S = \frac{D}{t}$$

$$(60-5) \text{ km/hr} = \frac{T}{12}$$

$$\downarrow \times \frac{5}{18}$$

$$\frac{55 \times 5}{18} = \frac{T}{12} \Rightarrow \boxed{T = 180 \text{ m}}$$

Put in eqn-①

$$T+P = \frac{1000}{3}$$

$$P = \frac{1000}{3} - 180 = \frac{460}{3} = 153.33$$

$$\text{Ans} \Rightarrow \boxed{180 \text{ m} \text{ \& } 153.33 \text{ m}}$$



90. In a partnership firm, A invests  $\frac{1}{6}$ th of the total investment for  $\frac{1}{6}$ th of the tenure. B invests  $\frac{1}{3}$ rd of the total investment for  $\frac{1}{3}$ rd of the tenure while C invests the remaining part for the full duration. Out of total profit of 46,00,000, what shall be C's share?

(a) 30,00,000

(b) 32,00,000

(c) 34,00,000

(d) 36,00,000

Ans-D

Explanation

**Q.90**  
Profit = Capital  $\times$  time

Explanation:-

A	B	C
$\frac{1}{6} \times \frac{1}{6}$	$\frac{1}{3} \times \frac{1}{3}$	$(1 - [\frac{1}{6} + \frac{1}{3}]) \times 1$
$\frac{1}{36}$	$\frac{1}{9}$	$\frac{1}{2}$

multiply by 144

Ratio of profit  $\Rightarrow 4 : 16 : 72 \Rightarrow$  total  $\Rightarrow 92 \rightarrow 46 \text{ lacs}$   
1  $\rightarrow \frac{1}{2} \text{ lacs}$   
72  $\rightarrow 36 \text{ lacs}$

Ans  $\Rightarrow$  C's profit = 36 Lacs

91. The sum of the ages of A and B (in years) is 22. The product of their ages two years back was 77. Which one of the following is the value of the difference of their current ages?

(a) 2

(b) 3

(c) 4

(d) 5

Ans-C

Explanation

**Q-91**  
Explanation:-  
Given  $A+B=22$   
 $(A-2)(B-2)=77$   
 $A-2=7$  |  $B-2=11$   
 $A=9$  |  $B=13$   
Difference  $\Rightarrow 13-9=4$

92. A shopkeeper sells two items, A and B. Item B's cost price is twice as that of item A. The shopkeeper sells item A at 10% profit and item B at 20% profit. Which one of the following is the value of net profit?

- (a) 15%
- (b) 13.33%
- (c) 18%
- (d) 16.66%**

Ans-D

Explanation

**Q-92**  
 explanation:-  
 given.

Cost price

A

100

10% P

P = 10

2 times

B

200

20% P

P = 40

Total P = 50

Total CP = 300 = 200 + 100

Net Profit =  $\frac{\text{Total Profit}}{\text{Total CP}} \times 100$

$\frac{50}{300} \times 100 \Rightarrow 16.66\%$

93. Out of a class of 100 students, 25 play at least cricket and football, 15 play at least cricket and hockey, 12 play at least football and hockey and 10 play all the three sports. The number of students playing cricket, football and hockey are 50, 37 and 22, respectively. The number of students who do NOT play any of the three sports is

(a) 33

(b) 23

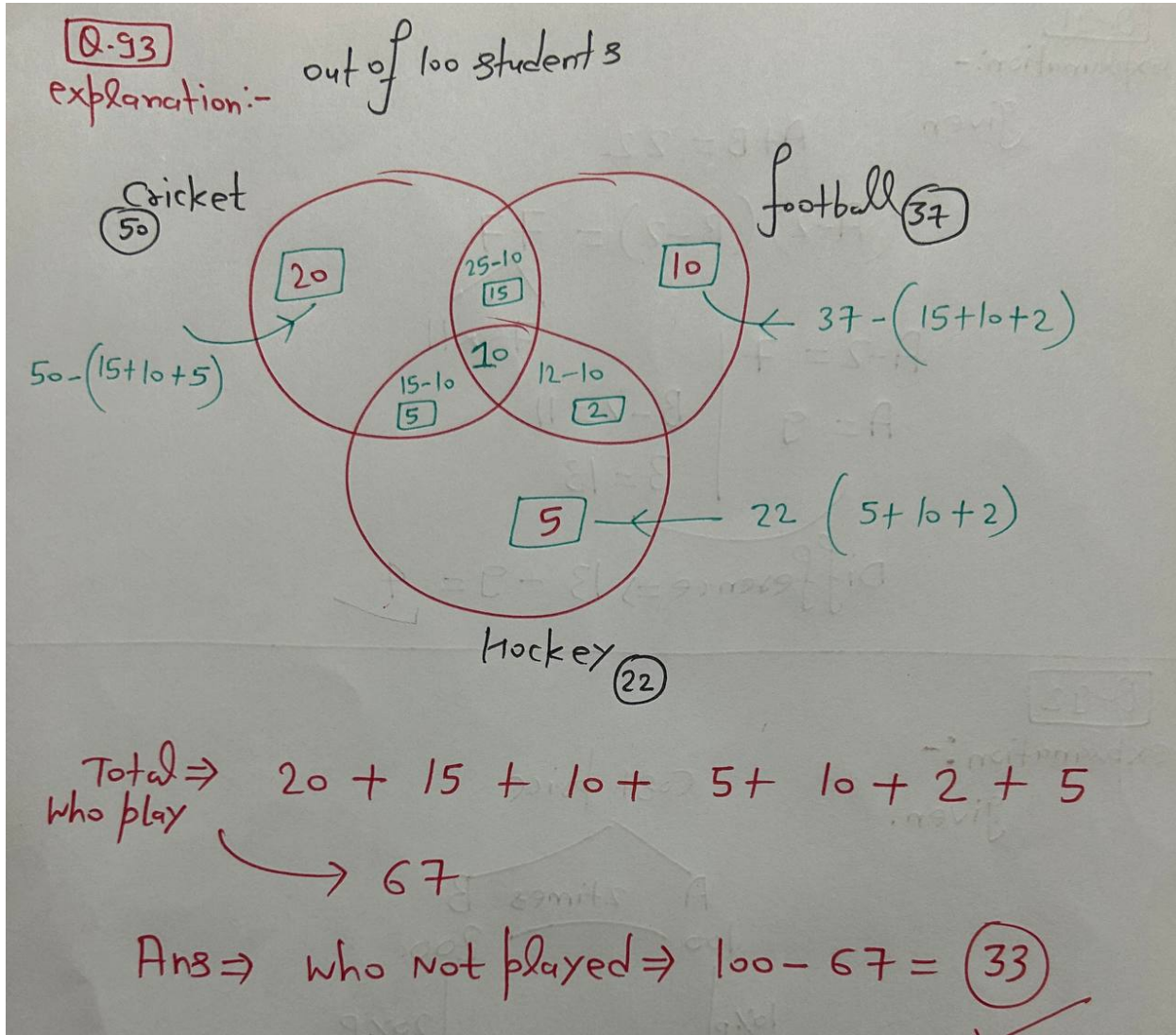
(c) 27

(d) 30

Ans-A

Explanation





94. A group of five people consisting of a couple are to be seated on a round table for a meeting. What is the total number of ways in which the seating arrangement can be made so that the couple do NOT sit next to each other?

- (a) 24
- (b) 18
- (c) 12**
- (d) 6

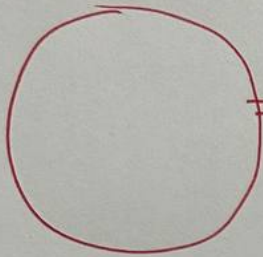
Ans-C

Explanation

Q-94

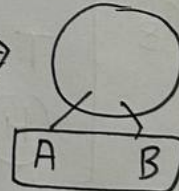
Explanation:-

5 people  $\begin{cases} 1 \text{ couple} \\ 3 \text{ single} \end{cases}$

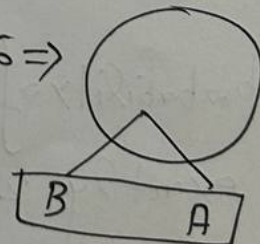
  $\Rightarrow n \text{ people} \Rightarrow$   
ways of seating arrangement  $\Rightarrow (n-1)!$

if total 5 people  $\Rightarrow$  ways  $= (5-1)! = 4! = 24$

if we consider A & B couple sit together  
(we consider them as one identity)

ways  $= (4-1)! = 3! = 6 \Rightarrow$  

+

$\rightarrow (4-1)! = 3! = 6 \Rightarrow$  

total  
 $6+6=12$

Ans  $\Rightarrow$

No. of ways so that couple do not sit next to each other  $\Rightarrow$  Total - ways when couple sit together

$$24 - 12 = 12$$

95. A fair coin is tossed three times and the outcomes are noted. What is the probability of getting exactly two heads?

(a)  $\frac{2}{3}$

(b)  $\frac{1}{2}$

(c)  $\frac{5}{8}$

**(d)  $\frac{3}{8}$**

Ans-D

Explanation

**Q-95**  
Explanation

total 8 possibilities  $\rightarrow$  when a coin tossed three times  
 $\downarrow$   
outcomes

2 heads  $\left[ \begin{array}{ccc} H & H & \textcircled{T} \\ \textcircled{T} & H & H \\ H & \textcircled{T} & H \end{array} \right] \Rightarrow 3$

2 tails  $\left[ \begin{array}{ccc} T & T & \textcircled{H} \\ T & \textcircled{H} & T \\ \textcircled{H} & T & T \end{array} \right]$

probability of getting exactly 2 Heads  $= \frac{3}{8}$



96. Which of the following statements with regard to the outcomes of the talks between the Prime Minister of India and the President of UAE held in February, 2024 is/are correct?

1. Both countries signed an agreement on inter-linking of domestic debit/credit cards
2. An MoU was signed on cooperation in digital infrastructure projects
3. Both countries agreed that a bilateral Investment Treaty shall be signed in the next meeting at the ministerial level

Select the answer using the code given below :

**(a) 1 and 2 only**

(b) 2 only

(c) 1 and 3 only

(d) 1, 2 and 3

Answer: A

Explanation:

- **Launch of UPI RuPay card 'Jaywan' in Abu Dhabi:** The **JAYWAN** card is based on India's digital RuPay credit and debit card stack for the UAE market. It included an agreement on interlinking of the instant payment platforms - UPI (India) and AANI (UAE), which will facilitate seamless cross-border transactions between the two countries.

Reference: February 2024 Current Tit-Bits Magazine by OneClass.in (Mission CAPF Hub)

97. Which of the following is NOT one of the pillars of India's 'Foreign Trade Policy-2023'?

**(a) Enlarging MFN (Most Favored Nations)**

(b) Export promotion through collaboration

(c) Ease of doing business

(d) Emerging areas – streamlining SCOMET policy

Answer: A

Explanation:

- Union Minister of Commerce and Industry, Consumer Affairs, Food and Public Distribution and Textiles, Shri Piyush Goyal launched the **Foreign Trade Policy 2023** saying that it is dynamic and has been kept open ended to accommodate the emerging needs of the time. **The Key Approach** to the policy is based on these **4 pillars**: (i) Incentive to Remission, (ii) Export promotion through collaboration - Exporters, States, Districts, Indian Missions, (iii) Ease of doing business, reduction in transaction cost and e-initiatives and (iv) Emerging Areas – E-Commerce Developing Districts as Export Hubs and streamlining SCOMET policy.

98. Which of the following statements about 'Vibrant Village Programme' of the Government of India is/are correct?

1. It aims at comprehensive development of the identified villages
2. Fairs, festivals, sports meet etc. are organized under this programme.

Select the answer using the code given below :

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2**
- (d) Neither 1 nor 2

Answer: C

Explanation:

- **Vibrant Villages Programme (VVP)**: Home Minister Amit Shah launches '**Vibrant Villages Programme**' in Kibithoo village in Anjaw district in Arunachal Pradesh. The scheme has a central component of ₹4,800 crore, including **₹2,500 crore exclusively for road connectivity**, for financial years 2022-23 to 2025-26. This **village development scheme** was first announced in the **2022-23 Budget**. The programme's targets are to provide comprehensive development of villages on the border with China and improvement in the quality of life of people living in identified border villages. The development in these villages will help prevent migration, and thus also boost security. Under this **centrally sponsored scheme**, 2,967 villages in 46 blocks of 19 districts have been identified for comprehensive development. These villages about the border in the states of **Arunachal Pradesh, Sikkim, Uttarakhand and Himachal Pradesh and the Union Territory of Ladakh**. The aims of the scheme are to **identify and develop the economic drivers** based on local, natural, human and other resources of the border villages. Development of growth centres on the "**Hub and Spoke Model**" through promotion of social entrepreneurship, empowerment of youth and women through skill development is also one of the objectives of VVP. There will **not be overlap with Border Area Development Programme**.

Reference: April 2023 Current Tit-Bits Magazine by OneClass.in (Mission CAPF Hub)

99. Which of the following countries chaired the 43rd ASEAN SUMMIT?

- (a) Thailand
- (b) Philippines
- (c) Indonesia**
- (d) Cambodia

Answer: C

Explanation:

- Prime Minister Narendra Modi attended the **ASEAN-India Summit at Jakarta in Indonesia.**  
**About Association of Southeast Asian Nations (ASEAN):**
  1. **The primary objectives as stated by the association are:** "to accelerate economic growth, social progress and cultural development in the region", and "to promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries in the region and adherence to the principles of the United Nations Charter."
  2. **Member Countries:** Brunei Darussalam, Burma, Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, and Vietnam. (India is **NOT** member of **ASEAN**)
  3. **Founded:** 8 August 1967, Bangkok, Thailand.
  4. **Headquarter:** Jakarta, Indonesia.
  5. The **ASEAN Declaration** or **Bangkok Declaration** is the founding document of **ASEAN**.

Reference: Sept 2023 Current Tit-Bits Magazine by OneClas.in (Mission CAPF Hub)

100. Which one among the following Indian PSUs has been declared as the winner at the Brandon Hall Group's Excellence in Technology Award-2023 ?

- (a) NTPC**
- (b) BHEL
- (c) Balmer Lawrie
- (d) HPCL

Answer: A

Explanation: NTPC, India's largest integrated power company, has been declared as the winner at the Brandon Hall Group's Excellence in Technology Awards 2023

Reference: PIB

101. Which of the following two organizations are parts of TIWB (Tax Inspectors Without Borders)?

- (a) United Nations Development Programme (UNDP) and Association of Southeast Asian Nations (ASEAN)
- (b) Organization for Economic Cooperation and Development (OECD) and ASEAN
- (c) UNDP and Organization for Economic Cooperation and Development (OECD)**
- (d) International Labour Organization (ILO) and ASEAN

Answer: C

Explanation: **Tax Inspectors Without Borders (TIWB)** is a joint initiative of the **Organisation for Economic Co-operation and Development (OECD)** and the **United Nations Development Programme (UNDP)** supporting countries in building tax audit capacity. TIWB Programmes complement the broader efforts of the international community to strengthen co-operation on tax matters and contribute to the domestic resource mobilisation efforts of developing countries.

Reference: TIWB Website

102. Which of the following countries does NOT share boundary with Ukraine?

- (a) Romania
- (b) Moldova
- (c) Poland
- (d) Lithuania**

Answer: D

Explanation: Map based question.





103. JAYWAN is the domestic Debit Card of which of the following countries?

- (a) UAE
- (b) Egypt
- (c) Saudi Arabia
- (d) Nepal

Answer: A

Explanation:

- **Launch of UPI RuPay card 'Jaywan' in Abu Dhabi:** The JAYWAN card is based on India's digital RuPay credit and debit card stack for the UAE market. It included an agreement on interlinking of the instant payment platforms - UPI (India) and AANI (UAE), which will facilitate seamless cross-border transactions between the two countries.

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Reference: February 2024 Current Tit-Bits Magazine by OneClass.in (Mission CAPF Hub)

104. Who, amongst the following, has won International Emmy Award-2023 for 'Best Actor'?

- (a) Jim Sarbh
- (b) Shefali Shah
- (c) Vir Das
- (d) Martin Freeman

Answer: D

Explanation:

- **51<sup>st</sup> International Emmy Award:** Indian comedian **Vir Das** has achieved a milestone by winning an International Emmy Award for his Netflix show, "**Vir Das: Landing on Monday**." This accomplishment makes him the **first Indian** to secure a victory in the comedy category. **Das shares the honor with the British series Derry Girls Season 3. Ekta Kapoor** was honoured with **Directorate Award** for her 'trailblazing career and impact on the Indian television landscape'.
- About International Emmy Awards:**
1. The Emmy Awards stand as prestigious accolades for excellence in television and emerging media performances.
  2. The term "Emmy" has no specific meaning; it serves as the name for the award.
  3. **Conceived in 1948**, the inaugural Emmy Awards ceremony **took place on January 25, 1949**. Six awards were presented, including recognitions for the Most Outstanding Television Personality and Most Popular Television Program.

105. Which of the following statements about CBAM (Carbon Border Adjustment Mechanisms) is/are correct?

1. These are an emerging set of trade policy tools to allow movement of carbon-intensive economic activity from a jurisdiction having less stringent climate policy to a jurisdiction having stringent climate policy
2. These are meant to increase the environmental effectiveness of climate policies

Select the answer using the code given below:

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2**
- (d) Neither 1 nor 2

Answer: C

Explanation: The EU's Carbon Border Adjustment Mechanism (CBAM) is the EU's tool to put a fair price on the carbon emitted during the production of carbon intensive goods that are entering the EU, and to encourage cleaner industrial production in non-EU countries.

106. Which of the following statements about the Nobel Peace Prize for 2023

is/ are correct?

1. The 2023 Nobel Peace Prize was awarded to Narges Mohammadi
2. Narges Mohammadi was awarded the prize for her struggle to bring peace in Afghanistan and Iran

Select the answer using the code given below:

- (a) 1 only**
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: A

Explanation:



5	Peace	Narges Mohammadi	She is from Iran and given noble for her fight against the oppression of women in Iran and her fight to promote human rights and freedom for all.
6	Economics	Claudia Goldin	For having advanced our understanding of women's labour market outcomes.

Reference: October 2023 Current Tit-Bits Magazine by OneClas.in (Mission CAPF Hub)

107. Which one among the following statements with regard to the United Nations Climate Change Conference (COP28) is NOT correct?

- (a) The 'Global Stocktake' is the central outcome of COP28
- (b) It recognized the need to limit global warming to 1-5°C
- (c) It directed the developing countries to lead the transition away from fossil fuel**
- (d) It emphasized accelerated phase down of coal-power.

Answer: C

Explanation:

- **COP28: The 2023 United Nations Climate Change Conference or Conference of the Parties of the UNFCCC**, more commonly known as COP28, was the 28<sup>th</sup> United Nations Climate Change conference, held at Expo City, Dubai, United Arab Emirates. The event is intended for governments to agree on policies to limit global temperature rises and adapt to impacts associated with climate change.
- What are COPs?**
- The COP conference has been held annually (except 2020 due to the COVID-19 pandemic), since the first UN climate agreement in 1992. These meetings, denoted by the acronym COP, serve as the official sessions of the Conference of the Parties.
  - During these sessions, participating countries (Parties) evaluate global endeavors aligned with the primary goal of the Paris Agreement, aiming to restrict global warming to approximately 1.5 °C above pre-industrial levels.
  - The COPs are the main decision-making body of the United Nations Framework Convention on Climate Change (UNFCCC).
- Key Highlights of the COP28:**
- 1. Loss and Damage (L&D) Fund:**
    - COP28, member countries reached an agreement to operationalize the Loss and Damage (L&D) fund aimed at compensating countries grappling with climate change impacts.
    - The World Bank will be the "interim host" of the fund for four years, aligning with UNFCCC and the Paris Agreement.
    - All developing countries are eligible to apply, and every country is "invited" to contribute voluntarily.
    - A specific percentage is earmarked for Least Developed Countries and Small Island Developing States.
  - 2. Global Stocktake Text:**
    - The Global Stocktake (GST) is a periodic review mechanism established under the Paris Agreement in 2015.
    - The fifth iteration of the Global Stocktake (GST) text was released at COP28 and adopted with no objection. The text proposes eight steps to keep the global temperature rise within the ambit of 1.5 degrees Celsius.

Reference: December 2023 Current Tit-Bits Magazine by OneClas.in (Mission CAPF Hub)

108. Which of the following statements with regard to the Anoop Barenwal v. Union of India (2023) case is/are correct?

1. The case was heard by a Constitutional Bench
2. According to the judgment, the grounds for removal of Election Commissioners shall be the same as the Chief Justice of India

Select the answer using the code given below :

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: A

Explanation: A five-judge constitutional panel led by Justice K.M. Joseph unanimously ruled to alter the current procedure for choosing the chief election commissioner as well as election commissioners in the case of anoop baranwal v union of india.

109. The National Council of Science Museums (NCSM), which is developing Science Centres/Museums/Innovation Hubs in India, works under

- (a) the Ministry of Science and Technology
- (b) the Ministry of Culture
- (c) the Ministry of Education
- (d) the Ministry of Earth Sciences

Answer: B

Explanation:

the region. It has been developed by Varanasi Development Authority in PPP mode.

- **Astro Tourism: National Council of Science Museums** in association with **Nehru Memorial Museum and Library** organised **Astro Tourism - A Sky Gazing event at Delhi's India Gate**. The event was inaugurated by **Minister of State for Culture, Arjun Ram Meghwal**.
- **Bharat Gaurav Tourist Train**: Indian Railways will launch its **Bharat Gaurav Tourist Train**

Reference: January 2023 Current Tit-Bits Magazine by OneClass.in (Mission CAPF Hub)

110. Which one among the following cities was included as the 'City of Music' in the year 2023 in the UNESCO's Creative Cities Network?

- (a) Kozhikode
- (b) Chennai
- (c) Varanasi
- (d) Gwalior**

Answer: D

Explanation:

- **UNESCO has added two Indian cities, Gwalior and Kozhikode, to its Creative Cities Network.** Gwalior was included in the 'Music' category, while Kozhikode made the list in the 'literature' category. Kozhikode is the first city in India to receive the prestigious title of 'City of Literature' by UNESCO. Gwalior is the second city in India to be designated as the 'City of Music' by UNESCO, after Varanasi in 2015.
- The UNESCO Creative Cities Network (UCCN):**
1. The UCCN was **created in 2004** to promote cooperation among cities that have identified creativity as a strategic factor for sustainable urban development.
  2. It now **includes 350 cities** in over a hundred countries.
  3. **The network covers seven creative fields:** crafts and folk arts, media arts, film, design, gastronomy, literature and music.
  4. **Other Indian cities in the UCCN include-** Jaipur: Crafts and Folk Arts (2015), Varanasi: Creative City of Music (2015), Chennai: Creative City of Music (2017), Mumbai: Film (2019), Hyderabad: Gastronomy (2019), and Srinagar: Crafts and Folk Art (2021).

Reference: November 2023 Current Tit-Bits Magazine by OneClass.in (Mission CAPF Hub)

111. Consider the following statements:

1. The 15th Finance Commission used fiscal effort as a criterion for horizontal devolution unlike the 14th Finance Commission.
2. Both the 14th and the 15th Finance Commission used pre 2011 demographic variables as criteria for horizontal devolution.

Which of the statements given above is/are correct?

- (a) 1 only**
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer- A

1 : Criteria for devolution

Criteria	14 <sup>th</sup> FC 2015-20	15 <sup>th</sup> FC 2020-21	15 <sup>th</sup> FC 2021-26
Income Distance	50.0	45.0	45.0
Area	15.0	15.0	15.0
Population (1971)	17.5	-	-
Population (2011) <sup>#</sup>	10.0	15.0	15.0
Demographic Performance	-	12.5	12.5
Forest Cover	7.5	-	-
Forest and Ecology	-	10.0	10.0
Tax and fiscal efforts*	-	2.5	2.5
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: <sup>#</sup>14<sup>th</sup> FC used the term “demographic change” which was defined as Population in 2011. \*The report for 2020-21 used the term “tax effort”, the definition of the criterion is same.

Source: Reports of the 14<sup>th</sup> and 15<sup>th</sup> Finance Commissions; PRS.

Source- PRS report

112. Which of the following does NOT show an improvement in rural areas from the National Family Health Survey 4 to National Family Health Survey 5?

- (a) Infant mortality rate
- (b) Obesity in women**
- (c) Anaemia in children**
- (d) Total fertility rate

Answer: B/C (Might get cancelled)

**National Family Health Survey-5:** The incidence of **anaemia** in under-5 children (from 58.6 to 67%), women (53.1 to 57%) and men (22.7 to 25%) has **worsened** in all States of India (20%-40% incidence is considered moderate). Barring Kerala (at 39.4%), all States are in the “severe” category.

**Rural anaemia** among children in NFHS 5 is 68.3



## India - Key Indicators

Indicators	NFHS-5 (2019-21)			NFHS-4 (2015-16)
	Urban	Rural	Total	Total
<b>Child Feeding Practices and Nutritional Status of Children</b>				
75. Children under age 3 years breastfed within one hour of birth <sup>15</sup> (%)	44.7	40.7	41.8	41.6
76. Children under age 6 months exclusively breastfed <sup>16</sup> (%)	59.6	65.1	63.7	54.9
77. Children age 6-8 months receiving solid or semi-solid food and breastmilk <sup>16</sup> (%)	52.0	43.9	45.9	42.7
78. Breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	11.8	10.8	11.1	8.7
79. Non-breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	14.2	12.0	12.7	14.3
80. Total children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	12.3	11.0	11.3	9.6
81. Children under 5 years who are stunted (height-for-age) <sup>18</sup> (%)	30.1	37.3	35.5	38.4
82. Children under 5 years who are wasted (weight-for-height) <sup>18</sup> (%)	18.5	19.5	19.3	21.0
83. Children under 5 years who are severely wasted (weight-for-height) <sup>19</sup> (%)	7.6	7.7	7.7	7.5
84. Children under 5 years who are underweight (weight-for-age) <sup>18</sup> (%)	27.3	33.8	32.1	35.8
85. Children under 5 years who are overweight (weight-for-height) <sup>20</sup> (%)	4.2	3.2	3.4	2.1
<b>Nutritional Status of Adults (age 15-49 years)</b>				
86. Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m <sup>2</sup> ) <sup>21</sup> (%)	13.2	21.2	18.7	22.9
87. Men whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m <sup>2</sup> ) (%)	13.0	17.8	16.2	20.2
88. Women who are overweight or obese (BMI ≥25.0 kg/m <sup>2</sup> ) <sup>21</sup> (%)	33.2	19.7	24.0	20.6
89. Men who are overweight or obese (BMI ≥25.0 kg/m <sup>2</sup> ) (%)	29.8	19.3	22.9	18.9
90. Women who have high risk waist-to-hip ratio (≥0.85) (%)	59.9	55.2	56.7	na
91. Men who have high risk waist-to-hip ratio (≥0.90) (%)	50.1	46.4	47.7	na

113. Consider the following statements:

1. Burden of a tax on a commodity is independent of who (buyer or seller) it is explicitly imposed upon
2. Burden of a tax on a commodity depends on the slope of the demand and supply curves

Which of the following statement given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2**
- (d) Neither 1 nor 2

Answer – C

This question is related to tax incidence and tax shifting.

**Tax incidence** is the manner in which the tax burden is divided between buyers and sellers.

**Tax shifting:** tax shifting is the activity of shifting the burden of a tax from one person to another. For example, in the case of GST, the tax is shifted ultimately from the producer to the consumer. The manufacturer SHIFTED the tax burden to the ultimate consumer.

**Statement 1 is correct:** The burden of a tax on a commodity is indeed independent of whether the tax is imposed on the buyer or the seller in terms of the economic outcome. This means that the ultimate distribution of the tax burden between buyers and sellers does not depend on whom the tax is legally assigned to but rather on the relative elasticities of supply and demand.

**Statement 2 is correct:** The distribution of the tax burden between buyers and sellers is influenced by the relative elasticities of demand and supply. The steeper the demand curve (indicating inelastic demand) relative to the supply curve, the greater the burden on consumers. Conversely, the steeper the supply curve (indicating inelastic supply) relative to the demand curve, the greater the burden on producers.

So, statement 2 is accurate in describing how the burden of a tax depends on the slopes (elasticities) of the demand and supply curves.

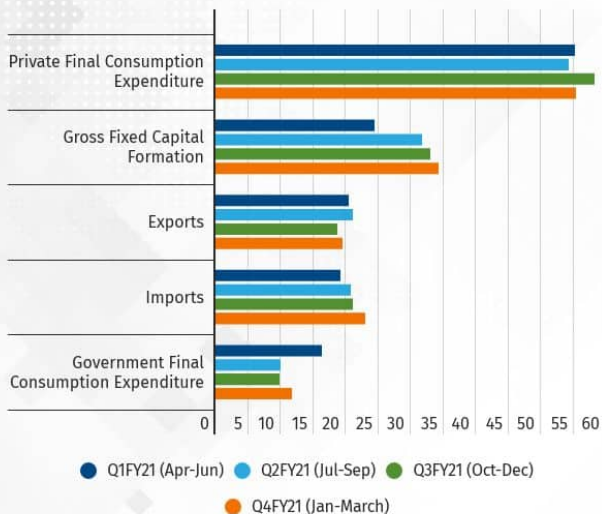
The correct ans is **option (c)**

114. In recent years, which one among the following is the source of demand in the Indian economy in descending order

- (a) Private Consumption, Government Consumption, Net Exports, Gross Fixed Capital Formation
- (b) Government Consumption, Private Consumption, Net Exports, Gross Fixed Capital Formation
- (c) Private Consumption, Gross Fixed Capital Formation, Government Consumption, Net Exports**
- (d) Government Consumption, Private Consumption, Gross Fixed Capital Formation, Net Exports

Answer – C

## QUARTERLY ESTIMATES OF EXPENDITURES ON GDP\*



\*% Share of GDP by segments

Source: MOSPI

moneycontrol

115. What is the percentage weightage assigned to Forest and Ecology in the devolution formula given by the Fifteenth Finance Commission of India for sharing of Union tax revenue with the States?

- (a) 10%**
- (b) 15%
- (c) 7-5%



(d) 2.5%

Answer- A

1 : Criteria for devolution

Criteria	14 <sup>th</sup> FC	15 <sup>th</sup> FC	15 <sup>th</sup> FC
	2015-20	2020-21	2021-26
Income Distance	50.0	45.0	45.0
Area	15.0	15.0	15.0
Population (1971)	17.5	-	-
Population (2011) <sup>#</sup>	10.0	15.0	15.0
Demographic Performance	-	12.5	12.5
Forest Cover	7.5	-	-
Forest and Ecology	-	10.0	10.0
Tax and fiscal efforts*	-	2.5	2.5
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: <sup>#</sup>14<sup>th</sup> FC used the term "demographic change" which was defined as Population in 2011. \*The report for 2020-21 used the term "tax effort", the definition of the criterion is same.  
Source: Reports of the 14<sup>th</sup> and 15<sup>th</sup> Finance Commissions: PRS.

116. Consider the following statements regarding instruments of Monetary Policy:

1. The Central Bank can increase the money supply by increasing the bank rate.
2. The Central Bank can increase the money supply by purchasing securities from public.
3. The Central Bank can decrease the money supply by increasing the cash reserve ratio.

Which of the statements given above is/are correct?

(a) 2 only

**(b) 2 and 3 only**

(c) 1 and 3 only

(d) 1, 2 and 3

Answer- B

Statement 1 – **Incorrect** - An increase in the bank rate increases the cost of borrowing from the Central Bank. Therefore, if the Central Bank increases the bank rate, the commercial banks also increase the rate at which they lend to the public and business firms. It makes borrowings by the people costly. This will discourage them from taking loans. This also reduces the ability of commercial banks to create credit. Thus **volume of credit and money supply will decrease in the economy.**

Statement 2 – **correct** - Central banks affect the quantity of money in circulation by buying or selling government securities through the process known as open market operations (OMO). When a central bank is looking to **increase the quantity of money in circulation**, it **purchases government securities** from commercial banks and institutions.

Statement 3 – **correct** - At the time of high inflation, the government needs to ensure that excess money is not available in the economy. To that extent, **RBI increases the Cash Reserve Ratio** and the **amount of money that is available with the banks reduces**. This curbs the excess flow of money in the economy.

117. Which of the following statements with regard to National Logistics Policy (NLP) is NOT correct?

- (a) NLP was launched in 2022
- (b) NLP would improve the competitiveness of Indian goods
- (c) NLP would enhance economic growth and increase employment opportunities
- (d) NLP would provide an opportunity for deleveraging balance sheets and providing fiscal space for investment in new infrastructure assets.**

Answer – D

To complement PM GatiShakti National Master Plan (NMP), the National Logistics Policy (NLP) was launched on **17th September 2022** by the Prime Minister, Shri Narendra Modi.

The vision of NLP is to drive **economic growth and business competitiveness of the country** through an integrated, seamless, efficient, reliable, green, sustainable and cost-effective logistics network.

The targets of the NLP are to: (i) Reduce cost of logistics in India; (ii) improve the Logistics Performance Index ranking – endeavor is to be among top 25 countries by 2030, and (iii) create data driven decision support mechanism for an efficient logistics ecosystem.

118. Consider the following Statements regarding Public Goods & Externalities?

- 1. Non-rivalry and non-excludability are two characteristics of Public Goods
- 2. Market can provide the optimal amount of a good in the presence of externalities

Which of the statements given above is/are correct?

- (a) 1 only**
- (b) 3 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer – A

A public good has two key characteristics: it is **nonexcludable and nonrivalrous**. These characteristics make it difficult for market producers to sell the good to individual consumers. Nonexcludable means that it is costly or impossible for one user to exclude others from using a good.

An **externality** occurs when an exchange between a buyer and seller has an impact on a third party who is not part of the exchange.

As an example of a **Negative Externality**: Suppose a banana farmer uses pesticides on their crop and some of this pesticide runs off into a nearby stream that is the primary water supply of a downstream community. The farmer and the banana consumers do not account for the negative impact the operations have on the stream. In other words, there is a spillover cost inherent to this market interaction.

As an example of a **Positive Externality**: suppose a bee keeper's hives are located near another farmer's orchard. The bees fly to the orchard and pollinate the crop resulting in a spillover benefit for the orchard farmer.

**Statement 2 is generally incorrect.** Externalities often lead to **market failures** where the market does **not provide the optimal amount** of a good. Negative externalities typically result in overproduction, while positive externalities lead to underproduction.

For example: In the case of a positive externality, the third party is obtaining benefits from the exchange between a buyer and a seller, but they are not paying for these benefits. If this is the case, **markets tend to under-produce output** because suppliers do not consider the additional benefits to others.

119. 119. Population of the year 2011 was first introduced in the tax devolution formula for sharing Union tax revenue with the States by -

- (a) Thirteenth Finance Commission
- (b) Fifteenth Finance Commission
- (c) Fourteenth Finance Commission**
- (d) Twelfth Finance Commission

**Answer- C**

1 : Criteria for devolution

Criteria	14 <sup>th</sup> FC 2015-20	15 <sup>th</sup> FC 2020-21	15 <sup>th</sup> FC 2021-26
Income Distance	50.0	45.0	45.0
Area	15.0	15.0	15.0
Population (1971)	17.5	-	-
Population (2011) <sup>#</sup>	10.0	15.0	15.0
Demographic Performance	-	12.5	12.5
Forest Cover	7.5	-	-
Forest and Ecology	-	10.0	10.0
Tax and fiscal efforts*	-	2.5	2.5
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: \*14<sup>th</sup> FC used the term "demographic change" which was defined as Population in 2011. \*The report for 2020-21 used the term "tax effort", the definition of the criterion is same.  
Source: Report of the 14<sup>th</sup> and 15<sup>th</sup> Finance Commissions: PRS.

120. Which of the following statements is NOT correct for Pradhan Mantri Mudra Yojana (PMMY)?

- (a) It was launched in 2015
- (b) It grants loans of up to 15 lakhs for income generating manufacturing, trading and services sectors**
- (c) Under this scheme only the term loan requirements can be met and not the working capital requirements**
- (d) There is no insistence on collateral for the sanction of loan

Answer: B/C (Might get cancelled)

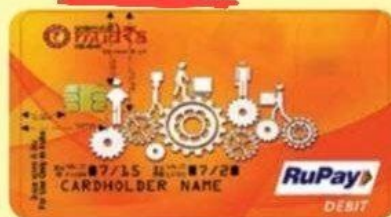
**The Pradhan Mantri MUDRA Yojana (PMMY)** was launched on **8th April 2015** by Prime Minister Shri Narendra Modi with the aim to facilitate **easy collateral-free micro credit of up to ₹10 lakh** to non-corporate, non-farm small and micro entrepreneurs for income generating activities. The loans under PMMY are provided by Member Lending Institutions (MLIs), i.e., Banks, Non-Banking Financial Companies (NBFCs), Micro Finance Institutions (MFIs) and other financial intermediaries.

#### Features

- The loans have been divided into three categories based on the need for finance and stage in maturity of the business. These are Shishu (loans up to ₹50,000/-), Kishore (loans above ₹50,000/- and up to ₹5 lakh), and Tarun (loans above ₹5 lakh and up to ₹10 lakh).
- Loans under PMMY are provided to meet both term loan and working capital components of financing for income generating activities in manufacturing, trading and service sectors, including activities allied to agriculture such as poultry, dairy, beekeeping, etc.

#### Purpose of Assistance/Nature of assistance.

Need based term loan/OD limit/composite loan to eligible borrowers for acquiring capital assets and/or working capital/marketing related requirements. The MUDRA loans are provided for income generating small business activity in manufacturing, processing, service sector or trading. The Project cost is decided based on business plan and the investment proposed. MUDRA loan is not for consumption/personal needs.



Reference- PIB/MUDRA website.

121. What were the main reforms under taken under the New Economic Policy of the early 1990s

1. Trade liberalization
2. Public Sector Disinvestment
3. Poverty Alleviation
4. Rapid industrialization

Select the answer using the code given below:

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

Answer – C

### Features of New Economic Policy 1991

It featured liberalised trade and investment policies that focused on exports, industrial deregulation, **disinvestment**, public sector changes, and capital and financial sector reforms. Focus areas of the NEP 1991 Economic Reforms were **Liberalisation**, Privatization, and Globalisation.

Source- Indian Economic Development NCERT\Chapter 3.

122. Consider the following statements:

1. National Monetization Pipeline estimates that for the period 2022-2025, the top three sectors in terms of monetization potential are roads, railways, and oil and gas pipelines
2. Under the National Monetization Pipeline, the instruments to be used for asset monetization include Public-Private Partnership concessions and Infrastructure Investment Trusts.

Which of the statements given above is/are correct?

- (a) 1 only  
**(b) 2 only**  
(c) Both 1 and 2  
(d) Neither 1 nor 2

Answer – B

**The National Monetisation Pipeline:** The top 5 sectors (by estimated value) capture ~83% of the aggregate pipeline value. These top 5 sectors include: **Roads (27%) followed by Railways (25%), Power (15%), oil & gas pipelines (8%) and Telecom (6%).**



The assets and transactions identified under the NMP are expected to be rolled out through a range of instruments. These include direct contractual instruments such as **public private partnership concessions** and capital market instruments such as **Infrastructure Investment Trusts (InvIT)** among others.

Source- PIB

123. Retail core inflation is calculated excluding which of the following?

1. Food and beverages
2. Fuel and light
3. Transport and communication
4. Clothing and Education

Select the answer using the code given below:

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

Answer – A

➤ India's wholesale price index (WPI)-based inflation rate rose to the highest level in the current 2011-12 series at 15.08 per cent in April on the back of hardening commodity and vegetable prices. With this, the WPI-based inflation has been in double-digits for 13 consecutive months. **Core inflation, which excludes food and fuel inflation**, rose marginally to a four-month high of 11.1 per cent. Fuel inflation climbed to 38.66 per cent, while inflation for manufactured products increased to 10.85 per cent.

Reference: Current Tit-Bits Magazine by OneClass.in (Mission CAPF Hub)

124. Which of the following is a part of the capital receipt of the Government of India

1. Disinvestment receipts
2. Interest receipts
3. Small savings
4. Net market borrowing

Select the answer using the code given below:

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

(d) 1, 3 and 4 only

Answer – D

**Capital Receipts:** All those receipts of the government which create liability or ~~reduce financial~~ assets are termed as capital receipts. The main items of capital receipts are loans raised by the government from the public which are called market borrowings, borrowing by the government from the Reserve Bank and commercial banks and other financial institutions through the sale of treasury bills, loans received from foreign governments and international organisations, and recoveries of loans granted by the central government. Other items include small savings (Post-Office Savings Accounts, National Savings Certificates, etc), provident funds and net receipts obtained from the sale of shares in Public Sector Undertakings (PSUs) (This is referred to as PSU disinvestment).

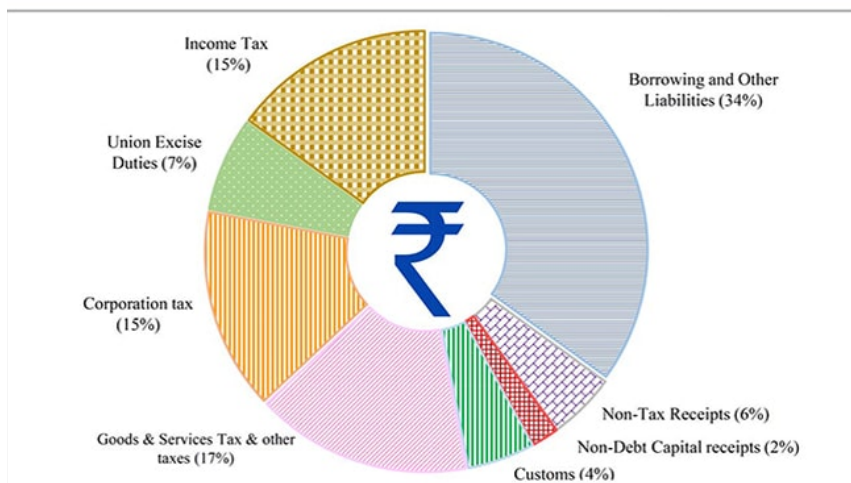
Reference- Macroeconomics NCERT/Chapter 5.

125. Arrange the following sources of revenue of the Central Government in ascending manner in terms of percentage contribution to the total revenues of the Central Government.in 2023- 24

- (a) Union Excise Duty, Custom, Corporation Tax, GST
- (b) Custom, Union Excise Duty, GST, Corporation Tax
- (c) Custom, Union Excise Duty. Corporation Tax, GST**
- (d) Custom, GST, Union Excise Duty, Corporation Tax

Answer – C

## Rupee Comes From





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Amudhan M



AIR 21  
Saiteja Pulli



AIR 23  
Ankit Singh

॥ मातृभूते ॥  
११०५३२६१८



AIR 31  
Sangale Saurabh



AIR 39  
Aruna Sharama



AIR 45  
Pritam Kumar



AIR 60  
Dhande Tushar



AIR 66  
Kiran Nawale



AIR 69  
Sinare Pratik



AIR 75  
Wakhare Rushikesh



AIR 84  
Bavi Kumar Samota



AIR 95  
Balwinder Singh



AIR 97  
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