

Q1. Which of the following provisions of the Constitution came into force on the 26th January 1950?

1. Provisions relating to citizenship
2. Provision relating to the Election Commission (Art. 324)
3. Provision relating to the Oath or Affirmation by the President (Art. 60)
4. Provision relating to Oath or Affirmation by the Vice President (Art. 69)

Select the correct answer using the codes given below:

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

Answer: D

Exp: The other provisions entered into force on the 26th November, 1949 itself.

Q2. Consider the following statements regarding national emergency:

1. A national emergency proclaimed on any ground carries no financial effect.
2. The President may suspend the enforcement of certain fundamental rights, but the fundamental rights themselves cannot be suspended by him.
3. When the national emergency is in force the Councils of Ministers are dismissed as the administration has to function as a unitary system.

Which of the statements given above is/are incorrect?

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

Answer: D

Exp: Under Article 354, the President can suspend the distribution of financial resources between the Centre and the States.

The President under Article 358 can suspend the fundamental rights given under Article 19(1).

The State Governments are not dismissed under Article 352. They are dismissed only under Article 356.

Q3. Which of the following political parties are given 100 per cent exemption from paying income tax under the law?

- A. All recognised political parties only
- B. All political parties that are registered with the Election Commission of India
- C. Only to political parties that contest elections to the Lok Sabha or to a Legislature
- D. Only to political parties that contest elections and win seats in the Lok Sabha or an Assembly

Answer: B

Exp: The Election Commission of India has recommended that income tax exemption be given only to political parties that contest elections and win seats in the Lok Sabha or an Assembly.

Q4. Match List-I with List-II and select the correct answer using the codes given below:

	List-I		List-II
A.	UOI vs. Association for Democratic Reforms 2002	1.	Right to Negative vote of citizens
B.	Lily Thomas vs. UOI	2.	MPs and MLAs would be disqualified automatically and immediately on conviction
C.	People's Union for Civil Liberties vs. UOI	3.	Declaration of criminal conviction, if any, by contesting candidates.
D.	Public Interest Foundation vs. UOI	4.	Trial courts to complete the trial of cases pending against sitting MPs and MLAs within one year from the framing of charges

A. a:2 b:3 c:4 d:1

B. a:3 b:4 c:1 d:2

C. a:3 b:2 c:1 d:4

D. a:3 b:2 c:4 d:1

Answer: C

Exp: None

Q5. Which of the following is not correct?

1. The present strength of UPSC members including the Chairman is seven.

2. The member of any Public Service Commission cannot hold any gubernatorial office after the completion of his tenure.

3. The Chairman of any Public Service Commission cannot become Chairman of any other Public Service Commission on ceasing to hold office.

Select the answer using the codes given below:

A. 1 only

B. 2 and 3 only

C. 1 and 2 only

D. 1, 2 and 3

Answer: D

Exp: Present strength is 6 (as on 18th Feb, 2017).

2. He can hold office of the Governor as held in case of Hargovind Pant.

3. If a member of State PSC retires at 62 years, he can be made a member and then the Chairman of UPSC upto 65 years.

Q6. Consider the following statements relating to the power of the Parliament in establishing Administrative Tribunals. The Parliament may by law:

1. Provide for the adjudication of disputes with respect to recruitment of persons appointed to public service.

2. Specify the jurisdiction which may be exercised by the Administrative Tribunals.

3. Provide for the procedure to be followed by the Administrative Tribunals.

4. Exclude the jurisdiction of all courts, except the jurisdiction of the Supreme Court under Article 136.

Which of the statements given above are correct?

A. 1 and 2 only

B. 2 and 3 only

C. 1, 2 and 3 only

D. 1, 2, 3 and 4

Answer: C

Exp: First three statements are correct under Article 323A but the fourth statement has been held to be unconstitutional and void by the Supreme Court in L. Chandra Kumar case.

Q7. The Constitutional Amendment in case of the Land Boundary Agreement between India and Bangladesh has changed the land boundaries of which of the following States of India?

- A. Assam, West Bengal, Meghalaya and Tripura
- B. Assam, West Bengal, Mizoram and Meghalaya
- C. Assam, West Bengal, Mizoram and Tripura
- D. Assam and West Bengal

Answer: A

Exp: None

Q8. The 101st Constitutional Amendment Act requires that

1. GST on the supplies in the course of inter-state trade or commerce shall be levied and collected by the States.
2. GST on the supplies in the course of inter-state trade or commerce shall be apportioned between the Union and the States in the manner provided by the GST Council.

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: D

Exp: It is to be levied and collected by the Government of India and apportioned in the manner provided by the Parliament by law on the recommendations of the GST Council.

Q9. Assertion (A): The advice given by the Public Service Commission is binding upon the Government.

Reason (R): The Commission has sufficient administrative experience.

- A. Both A and R are correct and R is the correct explanation of A.
- B. Both A and R are correct and R is not the correct explanation of A.
- C. A is correct but R is false
- D. A is false but R is correct

Answer: D

Exp: As at least half of its members are such persons who have held offices for at least 10 years either under the Government of India or the State Government, so it is said that it has administrative experience.

Yet, nothing in the Constitution binds the Government to the advice of the Commission. Article 323 allows for explanation for non-acceptance of advice.

Q10. In the light of ongoing Budget Session of the Parliament, which of the following statements is/are correct?

1. The Legislature's institutional control over finances of the Executive is stronger in the Parliamentary form of government than in the Presidential form of government.
2. The Railway Budget was separated from General Budget for the first time in 1924.
3. The decision to present Annual Financial Statement in the Lok Sabha as per the previously announced schedule despite the death of a member was based on precedents.

Select the correct answer using the codes given below:

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

Answer: B

Exp: The Legislature's financial control over the Executive is stronger in the Presidential form of government as the Legislature and Executive are separately elected.

The Indian Parliament data also shows that on July 31, 1974, Speaker Gurdial Singh Dillon did not postpone the Budget after the death of Union Minister Shri M.B. Rana. He allowed the then Finance Minister Y.B. Chavan to present the Budget. On April 19, 1954, sitting MP J.P. Soren died on the day of Railway Budget but the House proceedings were held as scheduled.

Q11. In which of the following exclusive situations, the President can decide who shall preside over the next sitting of a House of the Parliament?

- 1. If the offices of Speaker and Deputy Speaker of the Lok Sabha fall vacant.
- 2. Simultaneous absence of the Chairman and Deputy Chairman of the Rajya Sabha.
- 3. Resignation of the Vice President who is the ex-officio Chairman of Rajya Sabha.
- 4. Simultaneous absence of the Speaker and the Deputy Speaker of Lok Sabha.

Select the correct answer using the codes given below:

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

Answer: B

Exp: Refer Article 91 and 95. As given in statement No. 3, resignation of Vice President leads to the situation wherein Deputy Chairman of the House will preside over the next sitting.

Q12. Consider the following statements regarding nominated membership in the Houses of Parliament:

- 1. Nominated membership in both the Rajya Sabha and Lok Sabha are invoked and exercised as a matter of discretion by the Central Government.
- 2. Nominated membership in the Rajya Sabha has the feature of constitutional permanence whereas the same is not present in case of nominated membership in the Lok Sabha.

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

Exp: Nominated membership in the Rajya Sabha is not invoked as a matter of discretion by the Central Government, instead it is a constitutional necessity. Whereas the nomination of two Anglo-Indian members to the Lok Sabha is done at the option of the Union Government.

Q13. Consider the following statements regarding jurisdiction of the Parliament:

- 1. "Sports, entertainments and amusements" is a subject on which the State Legislatures alone are ordinarily permitted to legislate.

2. "Prevention of Cruelty to animals" is a subject on which Parliamentary Law will prevail over State Law, in case both legislatures enacted on it and to the extent of conflict, if any.

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

Exp: None

Q14. Consider the following statements:

1. The Constitution of India recognises the practice of the Speaker-elect of the Lok Sabha resigning from the membership of the political party representing which he/she got elected.

2. The Speaker of Lok Sabha can be removed by the House in case the House passes a resolution to that effect supported by a special majority.

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

Exp: Effective majority is the requirement to remove the incumbent from the office of the Speaker.

Q15. Which of the following ideas/ideologies are associated with right-wing politics?

- 1. Social order and hierarchy
- 2. Conservatism
- 3. Classical Liberalism

Select the correct answer using the codes given below:

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

Answer: D

Exp: None

Q16. Which of the following symbols are protected under The Prevention of Insults to National Honour Act, 1971?

- 1. National Flag of India
- 2. Constitution of India
- 3. State Emblem of India
- 4. National Anthem

Select the correct answer using the codes given below:

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

Answer: B

Exp: None

Q17. Consider the following statements regarding the Speaker of the Lok Sabha:

1. The Speaker is the ultimate arbiter and interpreter of the constitutional provisions that relate to the functioning of the House.
2. The Speaker's certification of a Money Bill cannot be challenged before any court of law.
3. The Speaker decides as to when a member shall speak and how long the member shall speak.

Which of the statements given above is/are correct?

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

Answer: D

Exp: None

Q18. Which of the following statements are correct regarding the Constitution of India?

1. It is flexible in nature.
2. It is federal in nature.

Select the correct answer using the codes given below:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: C

Exp: None

Q19. Consider the following statements regarding the Appropriation Bill:

1. It can be introduced only in the Lok Sabha.
2. It contains all the Demands for Grant voted upon in the Lok Sabha
3. Its introduction cannot be opposed
4. No Cut Motion is allowed after the introduction of Appropriation Bill.

Which of the statements given above are correct?

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

Answer: D

Exp: None

Q20. Which of the following is the largest Committee in the Parliament of India?

- A. Estimates Committee
- B. Committee on Public Accounts
- C. Committee on Privileges
- D. Business Advisory Committee

Answer: A

Exp: None

Q21. Amendments to which of the following provisions of the Constitution of India would require a Constitutional Amendment Act?

- A. Creation of Legislative Council in a State

- B. Representation of States in the Parliament
- C. Fifth Schedule to the Constitution
- D. None of the above

Answer: B

Exp: None

Q22. Consider the following statements regarding an Ordinance:

1. It can be promulgated to amend an Act of the Parliament
2. It can be promulgated with retrospective effect
3. It cannot be re-promulgated
4. It can be promulgated only when the Lok Sabha is not in session.

Which of the statements given above are correct?

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

Answer: A

Exp: None

Q23. In India, which of the following rights are available only to citizens of India?

1. Equality of opportunity in matters of public employment.
2. Prohibition of discrimination on grounds of religion.
3. Right of children to free and compulsory elementary education.
4. Right to Information.

Select the correct answer using the codes given below:

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

Answer: B

Exp: None

Q24. Who among the following categories of citizens are not allowed to vote in the elections but are eligible to contest elections to the Parliament and to the State Legislatures?

1. Undertrials
2. Persons detained under Preventive Detention Laws
3. Persons convicted of any offence and undergoing sentences of any duration

Select the correct answer using the codes given below:

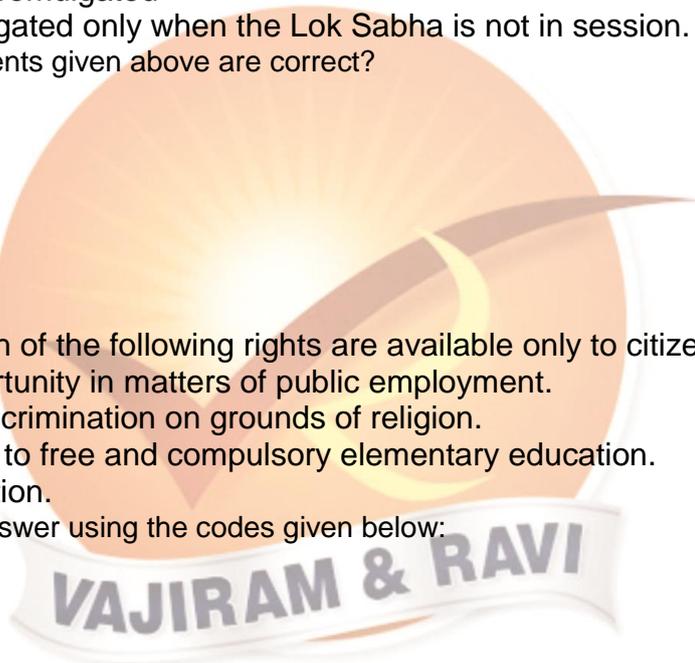
- A. 1 and 2 only
- B. 1 and 3 only
- C. 3 only
- D. 2 only

Answer: A

Exp: Since the undertrials and persons detained under Preventive Detention Laws are not yet convicted in a court of law, they are eligible to contest elections. However they are not eligible to vote as they are held in custody.

As per Section 8 (3) of R. P. Act, 1951, if a person is convicted of any offence and sentenced to an imprisonment of 2 years or more, this will be disqualification to contest elections.

Hence this statement holds validity only in part.



Q25. Consider the following statements regarding "Vote of Thanks to President's Address":

1. Motion of Thanks can be discussed only in the Lok Sabha.
2. The defeat of the Motion of Thanks in the Lok Sabha amounts to the defeat of the government.

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

Exp: The first session after each general election and the first session of every year are addressed by the President. This address of the President is discussed in both the Houses of Parliament. This motion must be passed in Lower House; otherwise, it amounts to the defeat of the government, and it has to seek a confidence vote, if defeated.

Q26. With reference to the "National Human Rights Commission", which of the following statements is/are correct?

1. It is a constitutional body like the National Commission for Scheduled Castes established under the Constitution.
2. The Chairman of the National Human Rights Commission shall be a retired Chief Justice of India.

Select the correct answer using the codes given below:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: B

Exp: The National Human Rights Commission is a statutory body established in 1993 under the provisions of the Protection of Human Rights Act 1993. It consists of a Chairman and 4 members. The Chairman should be a retired Chief Justice of India. Members should be either sitting or retired judges of the Supreme Court or a serving or retired Chief Justice of a High Court and 2 persons having practical knowledge in the field of human rights. Ex officio members are the chairpersons of National Commission for Scheduled Caste, National Commission for Scheduled Tribes, National Commission for Minorities and National Commission for Women.

Q27. "To abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem" is a provision made in the

- A. Preamble of the Constitution
- B. Directive Principles of State Policy
- C. Fundamental Rights
- D. Fundamental Duties

Answer: D

Exp: Article 51A of the Constitution makes it a fundamental duty for every citizen of India to abide by the Constitution and respect its ideals and institutions, the national flag and the national anthem.

Q28. Any dispute relating to election of the Prime Minister or the Speaker of the Lok Sabha is to be determined only by

- A. The Supreme Court
- B. The High Court
- C. The Election Commission of India
- D. The House itself

Answer: B

Exp: Any dispute relating to election of the Prime Minister or the Speaker of the House of the People of the Parliament is to be determined only by an election petition before the High Court, according to the Representation of Peoples' Act, 1951.

Q29. With reference to the "Legislative Council", which of the following statements is/are correct?

1. The creation or abolition of the Legislative Council requires an amendment to the Constitution.
2. The final power of providing the composition of the Legislative Council is given to the Governor of the State concerned.

Select the correct answer using the codes given below:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: D

Exp: The creation or abolition of the Legislative Council does not involve an amendment to the Constitution. The final power of providing the composition of the Legislative Council is given to the Parliament.

Q30. With reference to the 'Amendment to the Constitution', which of the following statements is/are correct?

1. The State Legislature cannot initiate any Bill or proposal for amendment to the Constitution.
2. In case of disagreement between the two Houses, the deadlock may be solved by a joint session of the Parliament.

Select the correct answer using the codes given below:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: A

Exp: The procedure for joint session is applicable only to Bills for ordinary and financial legislations and not to Bills for amendment to the Constitution.

Q31. Consider the following pairs:

1.	Loktak Lake	:	Manipur
2.	Nalsarovar	:	Gujarat
3.	Bhoj Tal	:	Rajasthan

Which of the above pairs is/are correctly matched?

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

Answer: C

Exp: Bhoj Tal Ramsar wetland is located in Madhya Pradesh.

Q32. Consider the following statements regarding Rub-Al-Khali:

1. It is situated in the southern part of Saudi Arabia.
2. It is the 2nd largest hot desert in the world.
3. It is called 'Empty Quarter'.

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

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

Answer: D

Exp: SAHARA is the largest hot desert in the world.

Q33. Consider the following:

- 1. Chenab
- 2. Sutlej
- 3. Beas

Which of the above river(s) flow(s) through Punjab in India?

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

Answer: B

Exp: The Chenab river originates in Himachal Pradesh, passes through Jammu and Kashmir and thereafter enters Pakistan.

Q34. Which of the following information is not true about the physical feature of North America?

- A. The highest peak of the Appalachian Range is Mount Mitchell.
- B. Ungava Peninsula is located in the USA and is surrounded by Hudson Bay and Hundron Strait.
- C. Yucatan peninsula is the deepest place of Mexico and an example of Karst and Limestone topography.
- D. Death Valley, situated in California is the deepest point of North America.

Answer: B

Exp: Ungava Peninsula is located in Canada and surrounded by Hudson Bay and Hundron Strait.

Q35. Match the following plains with the rivers they are formed with:

	List I (Plains)		List II (Rivers)
A.	Manchurian Plain	1	Yenissei and its tributaries
B.	Great Plain of China	2	Tigris and Euphrates
C.	West Siberian Plain	3	Huang Ho and Yangtze
D.	Mesopotamian Plain	4	Amur and its tributaries

- A. 1:a 3:b 4:c 2:d
- B. 3:a 4:b 1:c 2:d
- C. 4:a 3:b 1:c 2:d
- D. 3:a 4:b 2:c 1:d

Answer: C

Exp: None

Q36. Consider the following statements:

1. St. Louis is located on the confluence of rivers Mississippi and Missouri.
2. Mississippi-Missouri rivers form bird's foot delta.

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

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: C

Exp: None

Q37. Consider the following statements:

1. The Headquarters of the Organization of Petroleum Exporting Countries (OPEC) is located at Geneva.
2. Venezuela is the only country from South America which is a member of the OPEC.

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

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: D

Exp: The Headquarters of Organization of Petroleum Exporting Countries (OPEC) is at Vienna, Austria.

Other than Venezuela, Ecuador is also a member of OPEC from South America.

Q38. Consider the following statements:

1. River Zambezi in Africa crosses the Tropic of Capricorn twice.
2. River Zaire in Africa crosses the Equator twice.

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

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: B

Exp: River Limpopo in Africa crosses the Tropic of Capricorn twice.

Q39. Consider the following wetlands of international importance designated as Ramsar sites in India:

1. Keoladeo Ghana National Park
2. Vembanad Lake

Which of the above is/are a part of the Montreux Record?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: A

Exp: The Montreux Record is a register of wetland sites on the List of Wetlands of International Importance where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference. It is maintained as part of the Ramsar List.

List of Indian wetlands of International importance included in the Montreux Record are –

- 1) Keoladeo National Park, Rajasthan
- 2) Loktak Lake, Manipur.

Chilika Lake was removed from the Register in 2002 in light of the improved conditions of the lake. In fact, Chilika lake is the first Ramsar site in Asia to be removed from the Montreux record

Q40. Consider the following pairs:

1.	<u>Bhitarkanika Mangroves</u>	:	<u>Gahirmatha Marine Wildlife Sanctuary</u>
2.	<u>Chilika Lake</u>	:	<u>Nalbana Bird Sanctuary</u>
3.	<u>Tso Moriri</u>	:	<u>Galathea National Park</u>
4.	<u>Loktak Lake</u>	:	<u>Keibul Lamjao</u>

Which of the above pairs is/are correctly matched?

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

Answer: C

Exp: Galathea National park is located in Andaman Nicobar Island, whereas Tso Moriri Lake is a Ramsar site in Jammu and Kashmir.

Q41. To which of the following states, the ecologically rich Khandadhar hills belong?

- A. West Bengal
- B. Chhattisgarh
- C. Jharkhand
- D. Odisha

Answer: D

Exp: Once rescued from Korean company POSCO, Odisha's ecologically rich Khandadhar hills have now been handed over to the State's mining body. Tribal communities in the region gear up for another round of fight to save their rivers and land.

Q42. Which of the following countries, recently in news because of mass coral bleaching, has the largest coral reef in the Northern Hemisphere?

- A. Belize
- B. Venezuela
- C. Haiti
- D. Panama

Answer: A

Exp: There has been unprecedented coral bleaching, impacting at least 38 countries and island groups. This mass coral bleaching was triggered by El-Nino in 2014.

Australia has the largest coral reef of the world but it is in Southern Hemisphere.

Q43. Consider the following:

1. Deserts have high diurnal temperature ranges.
2. Deserts have high annual temperature ranges.

3. The highest temperatures are recorded in low-latitude deserts.

Which of the statements given above is/are correct?

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

Answer: A

Exp: The excessive heating during day time and excessive cooling at night give deserts high diurnal temperature ranges. During winter, deserts experience colder temperatures than more humid areas at the same latitude, and in summer they experience hotter temperatures. Just as with the high diurnal ranges in deserts, the high annual temperature ranges can be attributed to the lack of moisture in the air.

With few clouds and little water vapour in the air, as much as 90% of insolation reaches Earth in desert regions.

Q44. Consider the following:

- 1. Tropical Cyclones
- 2. Monsoons
- 3. Western Disturbances

Which of these is/are secondary circulations of the atmosphere?

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

Answer: A

Exp: The spatial and temporal variations which take place over and above the planetary (i.e. primary) circulations are called secondary circulations (or atmospheric disturbances).

Q45. Consider the following:

- 1. Difference in specific heat of land and water.
- 2. Water is transparent and land is opaque.
- 3. Water is mobile.

Which of these is/are factor(s) in differential heating of land and water?

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

Answer: A

Exp: There are 3 reasons for differential heating of land and water.

(1) The specific heat (i.e. the amount of heat necessary to raise the temperature of 1 gram of any substance 1°C) of water is more than that of land.

(2) Water is transparent and solar energy passes through the surface into the layers below, whereas in opaque land, the energy is concentrated on the surface.

(3) Liquid water circulates and mixes, it can transfer heat to deeper layers within its mass.

Q46. Assertion (A): In the northern hemisphere, January is the coldest month and July is the warmest.

Reason (R): Earth is closest to the Sun in January, and farthest in July.

- A. Both A and R are correct and R is the correct explanation of A.
- B. Both A and R are correct and R is not the correct explanation of A.
- C. A is correct but R is false
- D. A is false but R is correct

Answer: B

Exp: The elliptical orbit of the Earth does not play role in Earth's seasonality. Although Earth is closest to the Sun and thus receives more energy in January than in July, this difference does not play any significant role in producing seasonal variations.

Q47. Match List-I with List-II and select the correct answer using the codes given below:

	List-I (Mountain)		List-II (Type)
A.	Black Forest	1.	Old Fold
B.	Great Dividing Range	2.	Young Fold
C.	Andes	3.	Volcanic
D.	Kilimanjaro	4.	Block

- A. a:1 b:4 c:3 d:2
 B. a:1 b:4 c:2 d:3
 C. a:4 b:1 c:2 d:3
 D. a:4 b:1 c:3 d:2

Answer: C

Exp: Block mountains are formed as a result of faulting. Such mountains are usually steep-sided and are flat-topped. Black forest is on the border between Germany and France.

The important geologically "Young" fold mountains are – The Himalayas, Alps, Rockies and Andes. The notable "Old" fold mountains are – The Pennines, Appalachians, Great Dividing Range and Cape Ranges of South Africa.

"Young" fold mountains belong to the Alpine orogeny (~30 million years ago) and "old" fold mountains belong to the Hereynian Orogeny (~240 million years ago).

Q48. Consider the following statements:

1. High clouds are not precipitation makers.
2. The high-level clouds, above 6000 meters are termed Cirro.

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: C

Exp: Because of low temperatures and small quantities of water vapour present at high altitudes, all high clouds are thin and white and are made up of ice crystals.

Strato: low-level clouds (below 2000 m)

Alto: middle-level clouds (2000-6000 m)

Q49. Which of the following mountains in Africa is the farthest from Equator?

- A. Kilimanjaro
 B. Kenya
 C. Ruwenzori
 D. Cameroon

Answer: D

Exp: None

Q50. Consider the following statements:

1. The high dew-point temperatures indicate moist air.
2. Water vapour in the atmosphere absorbs more terrestrial radiation than other gases.

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: C

Exp: Because dew point is the temperature at which saturation occurs.
Water vapour absorbs more terrestrial radiation than do all the other gases combined.

Q51. Consider the following:

- 1. Konar
- 2. Barakar
- 3. South Koel
- 4. North Koel

Which of the above rivers are tributaries of Damodar?

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

Answer: C

Exp:

River	Tributary
Konar	Damodar
Barakas	Damodar
South Koel	Brahmani
North Koel	Son

Q52. Consider the following:

- 1. Ramganga – Jim Corbett National Park.
- 2. Ken – Panna Tiger Reserve
- 3. Periyar – Silent Valley National Park
- 4. Teesta – Kaziranga National Park

Which of the rivers and National Parks/Tiger Reserves are correctly matched?

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

Answer: B

Exp: Ramganga – Jim Corbett National Park

Ken – Panna Tiger Reserve

Kuntipuzha – Silent Valley National Park

Brahmaputra – Kaziranga National Park

Q53. Consider the following rivers:

- 1. Luni
- 2. Jawai
- 3. Ghaggar
- 4. Shetrunji

Which of the above rivers originate from the Aravalli mountains?

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

Answer: B

Exp: Luni – Aravalli

Jawai (Tributary of Luni) – Aravalli

Ghaggar – Shivalik
 Shetrunji – Girnar hills

Q54. Consider the following rivers and lakes:

1. R. Jhelum – Dal Lake
2. R. Daya – Chilka Lake
3. R. Achankovil – Vembanad Lake

Which of the above are correctly matched?

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

Answer: D

Exp: None

Q55. Match List-I with List-II and select the correct answer using the codes given below:

	List-I (Hydro Electric Project)		List-II (River)
A.	<u>Nimoo Bazgo</u>	1.	Chenab
B.	Rattle	2.	Indus
C.	<u>Chamera</u>	3.	Jhelum
D.	Uri	4.	Ravi

A. a:2 b:4 c:1 d:3

B. a:2 b:1 c:4 d:3

C. a:1 b:4 c:2 d:3

D. a:4 b:1 c:3 d:2

Answer: B

Exp: Nimoo Bazgo (Leh) – Indus

Rattle (Doda) – Chenab

Chamera (Chamba-HP) – Ravi

Uri (Baramula) – Jhelum

Q56. Match List-I with List-II and select the correct answer using the codes given below:

	List-I (Shifting Cultivation)		List-II (Area)
A.	<u>Milpa</u>	1.	Venezuela
B.	<u>Conuco</u>	2.	Mexico
C.	Roca	3.	Vietnam
D.	Ray	4.	Brazil

A. a:3 b:4 c:2 d:1

B. a:2 b:4 c:1 d:3

C. a:2 b:1 c:4 d:3

D. a:1 b:3 c:2 d:1

Answer: C

Exp: In India, shifting cultivation is known by various names like Dahiya in MP, Podu in Andhra Pradesh; Jhum in North East and Kumari in Western Ghats.

Q57. Consider the following statements:

1. It aims to increase jute productivity and improve agronomical practices.
2. It is implemented through National Jute Board and Jute Corporation of India.

Which of the above statements is/are correct about Jute: ICARE (Improved Cultivation and Advance Retting Exercise)?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: C

Exp: Jute: ICARE was started by the Government in 2015. The objective is to increase productivity of jute and improve quality of jute that is cultivated in India.

Q58. Consider the following statements:

- 1. It is a pan-India electronic trading portal for agricultural commodities.
 - 2. It aims to create unified national market for agricultural commodities.
 - 3. One license for a trader is valid across all markets of the state.
- Which of the statements given above are correct for e-NAM (National Agricultural Market)?

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

Answer: D

Exp: e-NAM is a portal that will help in

- (1) Giving better price to farmers
- (2) Reduce the price of commodities for consumers by cutting supply chain.
- (3) Better facilities in Mandi (Agricultural Markets) for grading, sorting, weighing, etc.

Q59. Consider the following:

- 1. Erosion control
- 2. Agroplant Mulching
- 3. Rural Roads and Pavements Construction.

Which of the above activities use Jute Geo textiles?

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

Answer: D

Exp: Jute Geotextiles are textiles made from inferior quality jute fibres. They are finding greater relevance today and are preferred over geotextiles made from synthetic fibres as these are biodegradable.

Q60. Match List-I with List-II and select the correct answer using the codes given below:

	List-I		List-II
A.	Andhra Pradesh	1.	Buck Wheat
B.	Karnataka	2.	Turmeric
C.	Uttarakhand	3.	Cardamom
D.	Kerala	4.	Coffee

- A. a:2 b:4 c:1 d:3
- B. a:2 b:1 c:4 d:3
- C. a:4 b:1 c:2 d:3
- D. a:1 b:2 c:4 d:3

Answer: A

Exp: None

Q61. In the context of gravitational waves, consider the following statements:

1. The accelerated masses produce gravitational waves that travel only at the speed of light.
2. The most striking prediction of special relativity theory of Albert Einstein is that of gravitational waves.

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

Exp: Special relativity applies to elementary particles (protons etc) and their interactions, describing all their physical phenomena except gravity.

General relativity theory explains the law of gravitation and its relation to other forces of nature.

Q62. Consider the following statements:

1. Recently the IUCN has classified the conservation status of giraffes as vulnerable to extinction.
2. The official status of giant panda has been changed from vulnerable to endangered because of population decline in China.

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

Exp: The official status of giant panda has been changed from endangered to vulnerable due to efforts to conserve this species by China.

Q63. Which of the following radioisotopes is useful in the identification of malignant tumours?

- A. Iodine-131
- B. Cesium-137
- C. Phosphorus-32
- D. Technetium-99m

Answer: C

Exp: P-32 is useful because cancerous cells tend to accumulate phosphates more than normal cells do.

Q64. In the context of beta-plus decay, which of the following statements is/are correct?

1. An energetic positron is created and emitted, along with a neutrino.
2. It produces a daughter nucleus of one higher atomic number and the same mass number.

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

Exp: In β beta plus decay it transforms into a daughter nucleus of one lower atomic number.

Q65. Consider the following statements:

1. Pulsars are rapidly spinning black holes with a mass 1.35 times that of the Sun.
2. Black holes cannot be observed directly on account of both their small size and the fact that they emit no light.

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

Exp: Pulsars are rapidly spinning neutron stars, extremely dense stars composed almost entirely of neutrons and having a diameter of only 20 km or less.

Q66. Consider the following statements:

1. Deficiency of Riboflavin causes angular stomatitis.
2. In the dry beri-beri, the principal clinical manifestations are related to the nervous system.
3. Zinc mineral is needed to make the antioxidant enzyme glutathione peroxidase.

Which of the statements given above is/are correct?

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

Answer: B

Exp: Angular stomatitis means cracks at the corner of lips.

Selenium mineral is needed for the formation of antioxidant enzyme glutathione peroxidase.

Q67. In the context of Ora Quick recently in news, consider the following statements:

1. It is a quantitative self HIV testing based on HIV antibodies in oral fluid.
2. It is a confirmatory test for HIV that can detect antibodies developed within three months of getting affected.

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: D

Exp: (1) It is a qualitative test that is designed to be visually read but the intensity of lines on the test stick does not correlate with the stage of the disease.

(2) It is a screening test and a positive result should be reconfirmed through a blood based test.

Q68. In the context of Kigali amendment to the Montreal Protocol on substances that deplete Ozone layer, consider the following statements:

1. The amendment will phase down Hydro fluorocarbon (HFCs), helping to avoid upto 1 degree Celsius of global temperature rise by 2100.
2. Most developing countries including China, Brazil and India will freeze the use of HFCs by 2028.

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: D

Exp: (1) HFC phase down will help to avoid up to 0.5° C of global temperature rise by 2100.
(2) China, Brazil will follow with a freeze of HFCs consumption levels in 2024 while India in 2028.

Q69. In the context of recent 22nd Session of the Conference of Parties (COP-22) to UNFCCC, consider the following statements:

1. The main thrust was on developing rules and action framework for operationalizing the Paris Agreement and advance work on pre-2020 actions.
2. The Marrakech Action Proclamation emphasised on the need to strengthen and support efforts to eradicate poverty, ensure food security and enhance resilience of agriculture.

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: C

Exp: The key decision of COP-22 adopted was Marrakech Action Proclamation for our climate and Sustainable Development which captured the sense of urgency to take action on climate change.

Q70. Consider the following statements:

1. India's renewable energy sector is undergoing transformation with a target of 175 GW of renewable energy capacity to be reached by 2022.
2. India has attained the fourth position in global wind power installed capacity after China, USA and Germany.

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: C

Exp: Both the statements according to latest economic survey 2017.

Q71. In the context of India's Intended Nationally Determined Contributions (INDC) target submitted to UNFCCC, consider the following statements:

1. To increase the share of non-fossil fuel based power generation capacity to 33 per cent of installed electric power capacity by 2030.
2. To create an additional carbon sink of 2.5-3 giga tonnes of CO₂ equivalent through additional forest and tree cover by 2030.

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

Exp: To increase the share of non fossil fuel based power generation capacity to 40 per cent of installed electric power capacity by 2030.

Q72. In the context of International Solar Alliance (ISA), consider the following statements:

It is expected to become inter-governmental treaty-based organisation that will be registered under Article 102 of the UN Charter after 15 countries ratify the Agreement.

24 countries have signed the Framework Agreement of ISA after it was opened for signature in November, 2016.

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: C

Exp: ISA is envisaged as a coalition of solar resource rich countries to address their special energy needs by promoting solar energy.

Q73. Consider the following statements

- 1. Neerdhur is an autonomous underwater vehicle developed by CSIR.
- 2. Neerdhur is used for coastal area surveys and mapping salinity of water in reservoirs and dams.

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: D

Exp: Neerdhur is multi-fuel domestic cooking stove developed by CSIR.

Q74. In the context of "Maya" developed by CSIR, consider the following statements:

- 1. It is a multifuel domestic cook stove for rural Indian households.
- 2. It can be fuelled by cow dung, wood chips, wood logs and charcoal.

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: D

Exp: Maya is a swimming robot used for coastal areas survey.

Q75. Consider the following statements:

- 1. Zombie computer is a computer connected to the internet and taken over by a malware.
- 2. Botnet is an antivirus used to completely erase a malware.

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

Exp: Botnet is a group of Zombie computers that often carry out criminal actions without the owner detecting any unusual activity.

Q76. Consider the following statements:

1. Transfat raises the level of high density lipoprotein in the blood.
2. Transfat increases product shelf life and decreases refrigeration requirements.

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

Exp: Transfat raises the level of low density lipoprotein or bad cholesterol in the blood.

Q77. Consider the following parts of spectra:

1. Infrared
2. Microwave
3. Visible
4. X-ray
5. Radiowave

Which one of the following is the correct sequence in which their wavelengths increase?

- A. 3-5-2-1-4
- B. 4-3-1-2-5
- C. 5-3-2-1-4
- D. 5-2-3-4-1

Answer: B

Exp: None

Q78. In the context of gastro-intestinal hormones, consider the following statements:

1. Secretin stimulates secretion of copious quantities of bicarbonate ions.
2. Enterokinin stimulates contraction of gall bladder to release bile.

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

Exp: Cholecystokinin stimulates contraction of gall bladder to release bile.

Q79. In the context of Rotterdam Convention, consider the following statements:

1. The Rotterdam Convention regulates the transboundary movements of hazardous wastes by applying the "Prior Informed Consent" procedure.
2. Shipments to and from non-parties are illegal unless there is a special agreement.

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: D

Exp: The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their disposal is the most comprehensive global environmental treaty on hazardous and other wastes.

Q80. Consider the following pairs of national parks and states:

1.	Murlen National Park	:	Mizoram
2.	Balphakram National Park	:	Assam
3.	Ntangkti National Park	:	Nagaland

Which of the pairs given above are not matched correctly?

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

Answer: A

Exp: Balphakram National Park is in Meghalaya. It is home to water buffalo and red panda.

Q81. Consider the following statements:

- 1. An Rh negative person can donate blood to an Rh positive person.
- 2. An Rh negative person if exposed to Rh positive blood develops Rh antigen.

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

Exp: An Rh negative person if exposed to Rh positive blood develops anti Rh antibodies.

Q82. In the context of Graphene, consider the following statements:

- 1. It is almost transparent as it absorbs only 2.3% of the light intensity.
- 2. A hypothetical hammock measuring one square metre made from graphene would weigh 0.77 mg.

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

Exp: It is almost transparent as it absorbs 2.3 per cent of the light intensity.

Q83. Consider the following statements:

- 1. Blood group is designated on the basis of the presence of antibodies in blood plasma.
- 2. A person of "AB" blood group has anti A and anti B antibodies in his/her blood plasma.

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: D

Exp: (1) Blood group is designated on the basis of the presence of antigen over Red Blood Cells.

(2) AB blood group has absence of anti A and anti B antibodies.

Q84. Consider the following statements:

Vision of Digital India launched by the Government of India is centred on

1. Digital Infrastructure as a core utility to every citizen.
2. Governance and Services on Demand.
3. Digital Empowerment of Citizens.

Which of the statements given above is/are correct?

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

Answer: D

Exp: None

Q85. Consider the following statements:

1. Baking soda is used in fire extinguisher.
2. Phenol and formaldehyde are polymerized resulting in a product known as Teflon.

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

Exp: Phenol and formaldehyde are polymerized to get Bakelite.

Q86. Which of the following microorganisms is used to obtain a bioactive molecule acting as an immunosuppressive agent in organ transplant patients?

- A. *Trichoderma polysporum*
- B. *Penicillium griseofulvin*
- C. *Clostridium butylicum*
- D. *Leuconostoc citrovorum*

Answer: A

Exp: *Trichoderma polysporum* fungus is used to obtain an immunosuppressant drug cyclosporine A prescribed in organ transplantation.

Q87. Consider the following statements about photochemical smog:

1. It occurs in cool humid climate.
2. It is also called London smog.
3. It has a high concentration of oxidizing agents.
4. It is produced when pollutants like sulphur dioxide react with sunlight.

Which of the statements given above is/are correct?

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

Answer: A

Exp: Photochemical smog also known as Los Angeles smog is produced when pollutants like nitrous oxide react with sunlight.

Q88. Consider the following statements:

1. New Delhi metallo-beta lactamase-1 (NDM-1) is an enzyme that makes bacteria resistant to antibiotics except carbapenem.

2. NDM-1 was first detected in Escherichia coli bacteria isolated from a Swedish patient of Indian origin in 2008.

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: D

Exp: NDM-1 was first detected in Klebsiella pneumoniae bacteria. NDM-1 is resistant to carbapenem group of antibiotics.

Q89. India recently conducted its maiden test flight of the scramjet propelled rocket. In respect of the Scramjet technology which of the following statements are correct?

- 1. Scramjet stands for supersonic combustion ramjet.
- 2. It can propel rockets up to hypersonic speed.
- 3. It generally is a part of first stage of the rocket propellant.
- 4. It can also be used in missiles and aircrafts.

Select the correct answer using the codes given below:

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

Answer: C

Exp: The scramjet engine is not used in the first stage as the engine doesn't start operating before 1 Mach speed.

Q90. Which of the following facts about Malaria are correct?

- 1. It is caused by a bacterial parasite.
- 2. The disease destroys the Red Blood Cells.
- 3. Recently Nepal became the first nation to be declared free of Malaria by WHO.
- 4. People with Sickle cell anemia are relatively more vulnerable against malarial parasite.

Select the correct answer using the codes given below:

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

Answer: D

Exp: Malaria is caused by Plasmodium species, which is a protozoan parasite.

Recently Sri Lanka was declared free of malaria.

The Sickle shape of the red blood cells doesn't allow the parasite to grow and hence makes such individuals less susceptible to malaria attack.

Q91. With respect to autophagy which of the following facts are correct?

- 1. It happens in all the living cells across the biological world
- 2. The process is observed in the starving cells
- 3. The 2016 Nobel prize of Physiology was awarded for the discovery of autophagy
- 4. Unregulated autophagy can cause cancer

Select the correct answer using the codes given below:

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

Answer: B

Exp: The autophagy or self eating happens specifically in eukaryotic cells.

Autophagy process gets unregulated in starving cells to generate energy by degrading its own components.

The Nobel Prize was not awarded for the discovery of autophagy but for the discovery and characterisation of 15 genes associated with the process.

Unregulated autophagy may cause diseases like cancer, Parkinson's disease, Alzheimer's etc.

Q92. Consider the following:

- 1. Lymph vessels
- 2. Liver
- 3. Spleen
- 4. Thymus

Which of the above comprise the lymphatic system?

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

Answer: B

Exp: The lymphatic system primarily consists of lymphatic vessels, which are similar to the circulatory system's veins and capillaries. The vessels are connected to lymph nodes, where the lymph is filtered. The tonsils, adenoids, spleen and thymus are all part of the lymphatic system.

Q93. Corneal transplant is almost never rejected because

- A. Cornea is composed of enucleated cells
- B. Cornea is a natural immunosuppressant in the tissue.
- C. Cornea does not get blood supply
- D. Corneal cells are immune to bacterial and viral infections.

Answer: C

Exp: Since the corneal tissue doesn't have access to blood supply it doesn't get impacted by the active immune cells either.

Q94. With respect to stem cells which of the following statements is/are correct?

- 1. Pluripotent stem cells can potentially generate all the organs of the body
- 2. Umbilical cord is a rich source of Totipotent stem cells.
- 3. The functionally differentiated cells can be converted back to stem cells.
- 4. The bone marrow is a rich source of stem cells.

Select the correct answer using the codes given below:

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

Answer: C

Exp: Umbilical cord is a source of mesenchymal stem cells and cord blood stem cells.

The mature cells can be converted back to stem cells. Such cells are called induced pluripotent stem cells.

Q95. With reference to 'Micius' in news, consider the following statements:

1. It is a solar powered two-seater aircraft designed by Japan.
 2. It is a space observatory launched by China.
- 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: D

Exp: China has successfully launched the world's first quantum-enabled satellite Micius. The satellite is named after the Chinese scientist and philosopher Micius. It contains experimental technology that could allow China to send unhackable communication in the future.

Q96. Which of the following statements are true regarding human brain?

1. Areas of hind brain are specialized in hearing, smell, sight etc.
 2. Involuntary actions are controlled by fore-brain.
- 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: D

Exp: Human brain is the main coordinating centre of the body. The brain and spinal cord constitute the central nervous centre. The brain also sends messages to muscle to perform various actions. It has 3 major regions namely fore-brain, mid-brain and hind-brain. Areas of fore brain are specialized for hearing, smell, sight etc. Many of the involuntary actions are controlled by mid-brain and hind-brain.

Q97. Which of the following space observatories has recently captured the rare phenomenon of a small six-billion old vampire star preying on a bigger celestial body?

- A. International Solar Station
- B. ASTROSAT
- C. Giant Metrewave Radio Telescope
- D. Mars Orbiter Mission

Answer: B

Exp: India's first dedicated space observatory, ASTROSAT, has captured the rare phenomenon of a small, 6-billion-year-old "vampire" star "preying" on a bigger celestial body. Scientists say the smaller star, also called a "blue straggler", feeds off its companion star by sucking out its mass and energy, causing its eventual death.

Q98. What is Kessler Syndrome?

- A. A disease where humans talk while sleeping.
- B. A problem found in space launch vehicles.
- C. Proliferation of space debris in low Earth orbit.
- D. A rare viral disease causing respiratory problems.

Answer: C

Exp: The Kessler Syndrome (also called the Kessler effect, proposed by the NASA scientist Donald Kessler in 1978), is a scenario in which the density of objects in low earth orbit (LEO) is high enough that collisions between objects could cause a cascade - each collision

generating space debris which increases the likelihood of further collisions. One implication is that the distribution of debris in orbit could render space exploration and even the use of satellites, unfeasible for many generations.

Q99. Consider the following regarding BRAHMOS Missile:

1. Its range of 290 kms is governed by Missile Technology Control Regime (MTCR), and cannot exceed 300 kms.
2. Its only disadvantage is its surface to surface variant.
3. It works on the principle of 'Fire and Forget'.

Which of the statements given above are incorrect?

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

Answer: A

Exp: Since India got the membership of MTCR only recently, the range could not cross the limit of 300 kms earlier and hence the missile's range is 290 kms. Now there are plans of upgrading it to 600 kms. Brahmos can be launched from submarines, ships, land and air. So, statement 1 is wrong.

So, it can be surface to surface, submarine to air and under development air to air.

Hence 2nd statement is wrong.

Q100. Consider the following statements:

1. The velocity of sound in air increases as the humidity increases.
2. Light is propagated in an optical fiber by refraction and internal reflection.

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: C

Exp: The density of water vapour is less than that of dry air. Since speed of the sound is inversely proportional to the square root of density, the sound travels faster in moist air than in dry air. Greater the humidity in the air, higher will be the speed of sound.