

INFINITE IAS KAS

CTI (HK)-2024-GENERAL KNOWLEDGE PAPER I

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Note: Answers are aligned with the KPSC key chart and revised key wherever revisions/multiple accepted answers are available.

1. According to Karnataka Industrial Policy 2020-25, which are the correct categories of the following?

- (1) Zone 1 and 2: Industrially developed districts; Zone 3 and 4: Industrially backward districts
- (2) Zone 1 and 2: Industrially developed districts; Zone 3 and 4: Agro-based districts
- (3) Zone 1 and 2: Industrially backward districts; Zone 3 and 4: Industrially developed districts
- (4) Zone 1 and 2: Agro-based districts; Zone 3 and 4: Industrially backward districts

Answer: Option (3) - Zone 1 and 2: Industrially backward districts; Zone 3 and 4: Industrially developed districts

Explanation: Karnataka Industrial Policy 2020-25 classifies areas into zones for incentives and industrial promotion. In the Series-B key, the grouping accepted is that Zone 1 and 2 are industrially backward districts while Zone 3 and 4 are industrially developed districts.

2. Which of the following is related to Karnataka Yeshasvini Health Insurance Scheme?

- (1) Co-operative Farmers healthcare scheme
- (2) Private Hospital healthcare scheme
- (3) State Government healthcare scheme
- (4) Central Government healthcare scheme

Answer: Option (1) - Co-operative Farmers healthcare scheme

Explanation: Yeshasvini is a cooperative-sector health insurance scheme designed especially for members of cooperative societies and rural cooperative farmers. Therefore it is best described as a co-operative farmers' healthcare scheme.

3. Which one of the following is the longest inland waterway of Karnataka?

- (1) Ghataprabha
- (2) Malaprabha
- (3) Bhima
- (4) Tungabhadra

Answer: Option (4) - Tungabhadra

Explanation: Among the listed rivers/waterways, Tungabhadra has a longer course and wider inland stretch in Karnataka compared with Ghataprabha, Malaprabha and Bhima within the given options.

4. Where is Karnataka's chemical and petrochemical industry hub located?

- (1) Karwar
- (2) Bengaluru

(3) Mangaluru

(4) Belagavi

Answer: Option (3) - Mangaluru

Explanation: Mangaluru has port connectivity, petrochemical handling facilities and industrial infrastructure around the coastal belt. Hence it is identified as Karnataka's chemical and petrochemical industry hub.

5. With reference to Judicial Review, which of the following statements are true?

A. The right of the Judiciary to advise the President in Constitutional matters.

B. The power of the Judiciary to pronounce upon the constitutionality of law passed by the Legislature.

C. The right of the Parliament to ask the Judiciary to review its own judgements.

D. The right of the Judiciary to quash the amendment to the Constitution when it affects the basic features of the Constitution.

(1) B and D

(2) A, B, C and D

(3) C and D

(4) A and D

Answer: Option (1) - B and D

Explanation: Judicial review means the power of courts to examine the constitutionality of laws and constitutional amendments. The judiciary can strike down laws or amendments violating the Constitution/basic structure; advisory jurisdiction to the President is separate and Parliament cannot direct the judiciary to review its own judgments.

6. With reference to the Citizenship Amendment Act, 2019, the following migrants from Afghanistan, Pakistan and Bangladesh were eligible to apply for Indian citizenship who arrived in India before 31st December, 2014:

A. Hindus and Sikhs

B. Buddhists and Jains

C. Parsis and Christians

D. Muslims

(1) A, B and D

(2) A, B, C and D

(3) A and B

(4) A, B and C

Answer: Option (4) - A, B and C

Explanation: The Citizenship Amendment Act, 2019 covers Hindu, Sikh, Buddhist, Jain, Parsi and Christian migrants from Afghanistan, Pakistan and Bangladesh who entered India before the specified date. Muslims are not included in the enumerated beneficiary communities.

7. With reference to the Supreme Court's interpretation, the following rights are listed in Article 21:

A. Right to Privacy

- B. Right to Reputation**
- C. Right to Information**
- D. Right to Security**
- E. Right to Doctor's Assistance**

- (1) A, B and C
- (2) C, D and E
- (3) A, B, C and E
- (4) B, C, D and E

Answer: Option (3) - A, B, C and E

Explanation: Article 21 has been judicially expanded to include several rights essential to life and personal liberty, such as privacy, reputation, access to information in appropriate contexts and medical aid. The given list does not treat the broad expression 'right to security' as a separate accepted item here.

8. Regarding the Amendment of the Indian Constitution, which of the following are true?

- A. Bills can be initiated in either House of the Parliament.**
- B. No joint sitting in case of deadlock between the two Houses.**
- C. President shall give his assent to the Bill.**
- D. The State Legislature's assent is required to amend any part of the Constitution.**

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

Answer: Option (1) - A, B and C

Explanation: A constitutional amendment Bill may be introduced in either House. Article 368 provides no joint sitting for deadlock, and after passage the President gives assent; ratification by States is needed only for specified federal provisions, not for every amendment.

9. Match the provisions of Directive Principles of State Policy (List I) with their correct Articles (List II):

- A. Just and humane conditions of work and maternity relief**
- B. To secure a social order which stands for the welfare of the people**
- C. Protect the environment and safeguard the forests and wildlife**
- D. Organisation of village panchayats**

List II: I. Article 48A; II. Article 42; III. Article 40; IV. Article 38

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

Answer: Option (2) - A-II, B-IV, C-I, D-III

Explanation: Article 42 deals with humane work conditions and maternity relief; Article 38 deals with social order and welfare; Article 48A deals with environment, forests and wildlife; Article 40 deals with village panchayats.

10. The following is the meaning of 'Span of control':

- (1) Tenure on a post
- (2) Geographical jurisdiction
- (3) The number of people being controlled
- (4) The number of subordinates or units of work that an officer can personally direct, control and supervise

Answer: Option (4) - The number of subordinates or units of work that an officer can personally direct, control and supervise

Explanation: Span of control is an administrative concept referring to how many subordinates can be effectively supervised by one superior. It is not tenure or territorial jurisdiction.

11. The following was the first to propound the concept of separation between Politics and Public Administration:

- (1) Aristotle
- (2) Woodrow Wilson
- (3) Karl Marx
- (4) Machiavelli

Answer: Option (2) - Woodrow Wilson

Explanation: Woodrow Wilson's essay 'The Study of Administration' (1887) is associated with the politics-administration dichotomy. He argued for a separate and systematic study of public administration.

12. With regard to the ruling of the Supreme Court, the Government of India appointed the following Committee to identify the creamy layer among the OBCs:

- (1) Ram Nandan Committee
- (2) B.P. Mandal Commission
- (3) Kaka Kalelkar Commission
- (4) Sardar Swaran Singh Commission

Answer: Option (1) - Ram Nandan Committee

Explanation: After the Indra Sawhney judgment, the Ram Nandan Prasad Committee was constituted to recommend criteria for excluding the creamy layer among OBCs.

13. According to Article 19 of the Constitution of India, right to freedom is protected against only:

- (1) State action
- (2) State and private individual action
- (3) State and private company action
- (4) Individual action

Answer: Option (2) - State and private individual action

Explanation: The revised key accepts option (2). In standard constitutional interpretation, Article 19

freedoms are primarily enforceable against State action; however, the revised key for this paper marks option (2), so the solved paper follows the final accepted key.

14. Regarding impeachment of the President of India, which of the following is not true?

- (1) Initiates in either House of the Parliament
- (2) 14 days notice should be given
- (3) Nominated member cannot participate in the process
- (4) Only for 'Violation of the Constitution'

Answer: Option (3) - Nominated member cannot participate in the process

Explanation: The impeachment process may be initiated in either House with 14 days' notice and is for violation of the Constitution. Nominated members of Parliament can participate in the impeachment process; hence statement (3) is not true.

15. The source of energy for the synthesis of food in plants is:

- (1) Chloroplast
- (2) Sunlight
- (3) Carbon dioxide
- (4) Water

Answer: Option (2) - Sunlight

Explanation: Photosynthesis uses light energy from the sun to convert carbon dioxide and water into glucose. Chloroplasts are the site of photosynthesis, but sunlight is the energy source.

16. Excess glucose in animals is stored as:

- (1) Glycogen
- (2) Starch
- (3) Maltose
- (4) Sucrose

Answer: Option (1) - Glycogen

Explanation: Animals convert excess glucose into glycogen, which is stored mainly in the liver and muscles. Starch is the storage carbohydrate of plants.

17. Radioactive decay follows:

- (1) Second order kinetics
- (2) First order kinetics
- (3) Zero order kinetics
- (4) None of the above

Answer: Option (2) - First order kinetics

Explanation: Radioactive decay rate is directly proportional to the number of undecayed nuclei present. Therefore it follows first-order kinetics.

18. Nylon is a polyamide of:

- (1) Vinyl chloride and formaldehyde
- (2) Adipic acid and methyl amine
- (3) Adipic acid and hexamethylene diamine
- (4) Formaldehyde and melamine

Answer: Option (3) - Adipic acid and hexamethylene diamine

Explanation: Nylon-6,6 is formed by condensation polymerisation of adipic acid and hexamethylene diamine. It contains amide linkages, hence it is a polyamide.

19. The Central Drug Research Institute (CDRI) is situated at:

- (1) Lucknow
- (2) New Delhi
- (3) Mumbai
- (4) Bengaluru

Answer: Option (1) - Lucknow

Explanation: The Central Drug Research Institute is a CSIR laboratory located at Lucknow. It works in drug discovery and biomedical research.

20. Gundappa Gowda Committee was formed with the following objectives regarding land reforms:

A. Abolition of Inam holdings from the general public for abolition of intermediaries in the year 1947

B. Revision of land revenue system

C. To examine the need for tenancy law

D. To recommend principles as to payment of compensation to the Inam holders.

- (1) A, B and C
- (2) A, C and D
- (3) B, C and D
- (4) A, B and D

Answer: Option (2) - A, C and D

Explanation: The Gundappa Gowda Committee dealt with land reform issues such as abolition of intermediaries/Inams, tenancy reforms and compensation principles. Revision of the entire land revenue system is not the accepted item in this set.

21. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).

Assertion (A): In the 1995 Karnataka Land Reforms Amendment Act, 'Public Interest' is the main motto.

Reason (R): 1995's Amendment Act amended that revenue land can be rented for 20 years.

- (1) Both (A) and (R) are correct, but (R) is not the correct explanation of (A).
- (2) Both (A) and (R) are correct and (R) is the correct explanation of (A).
- (3) (A) is correct, but (R) is not correct.
- (4) (A) is not correct, but (R) is correct.

Answer: Option (2) - Both (A) and (R) are correct and (R) is the correct explanation of (A)

Explanation: The amendment was connected with the idea of permitting land use in larger public interest. The reason explains the legal change regarding leasing/renting of revenue land for a specified period, hence it explains the assertion.

22. According to the Karnataka Land Reforms Act 1961, a family (of five people) was allowed to own:

- (1) 10 acres of fertile land or 171 acres of dry land
- (2) 18 acres of fertile land or 150 acres of dry land
- (3) 15 acres of fertile land or 186 acres of dry land
- (4) 27 acres of fertile land or 216 acres of dry land

Answer: Option (4) - 27 acres of fertile land or 216 acres of dry land

Explanation: Ceiling limits under land reforms vary according to the class and productivity of land. In the given options, the accepted ceiling for a family of five is 27 acres of fertile land or 216 acres of dry land.

23. The pace of implementation of which of the following land reforms measures has been particularly slow and full of loopholes?

- (1) Land consolidation
- (2) Abolition of zamindari
- (3) Ceiling on land holdings
- (4) Protection of tenants

Answer: Option (3) - Ceiling on land holdings

Explanation: Ceiling laws faced numerous loopholes such as benami transfers, fragmentation of holdings and exemptions. Hence implementation of ceilings on land holdings was slow and imperfect.

24. Melatonin hormone is secreted by the _____ gland.

- (1) Pineal
- (2) Thyroid
- (3) Pituitary
- (4) Adrenal

Answer: Option (1) - Pineal

Explanation: Melatonin is secreted by the pineal gland and helps regulate the sleep-wake cycle and circadian rhythm.

25. The place where two major biological communities meet and blend is called an:

- (1) Ecosystem
- (2) Ecotype
- (3) Ecotone
- (4) Ecology

Answer: Option (3) - Ecotone

Explanation: An ecotone is a transition zone between two biological communities, such as forest and grassland. It often has species from both adjoining communities.

26. Animals living at the bottom of the sea are called:

- (1) Plankton
- (2) Nekton
- (3) Benthos
- (4) Pelagic

Answer: Option (3) - Benthos

Explanation: Benthic organisms live on, in or near the sea bottom. Plankton drift, nekton swim actively and pelagic organisms live in open water.

27. The test conducted to identify causative agent of Tuberculosis is:

- (1) ELISA
- (2) ASLT
- (3) VDRL test
- (4) Mantoux test

Answer: Option (4) - Mantoux test

Explanation: The Mantoux tuberculin skin test is used to detect exposure or immune response to Mycobacterium tuberculosis. ELISA and VDRL are used for other diagnostic purposes.

28. Mechanical waves having frequencies greater than 20 kHz are called:

- (1) Sonics
- (2) Ultrasonics
- (3) Supersonics
- (4) Infrasonics

Answer: Option (2) - Ultrasonics

Explanation: Sound waves with frequency above 20,000 Hz are called ultrasonic waves. Infrasonic waves are below the audible range.

29. Roofs of huts being blown off during stormy days can be explained by using:

- (1) Archimedes' principle
- (2) Bernoulli's principle
- (3) Pascal's principle
- (4) None of the above

Answer: Option (2) - Bernoulli's principle

Explanation: Fast-moving air above the roof creates lower pressure than the air inside the hut. This

pressure difference can lift the roof, as explained by Bernoulli's principle.

30. An athlete runs before he takes a long jump to gain:

- (1) Frictional force
- (2) Inertia of rest
- (3) Potential energy
- (4) Inertia of motion

Answer: Option (4) - Inertia of motion

Explanation: Running gives the athlete momentum and inertia of motion. This helps him carry forward during the jump and cover a greater horizontal distance.

31. Which of the following mirror is used by a dentist to examine a small cavity?

- (1) Convex mirror
- (2) Concave mirror
- (3) Combination of convex and concave mirrors
- (4) None of the above

Answer: Option (2) - Concave mirror

Explanation: A concave mirror forms a magnified, upright image when the object is within its focal length. Dentists use it to see enlarged images of small cavities.

32. Jajmani system is a special form of _____ exchange.

- (1) Economic
- (2) Social
- (3) Political
- (4) Religious

Answer: Option (1) - Economic

Explanation: The Jajmani system was a traditional arrangement of hereditary services and payments among caste groups in villages. It is treated primarily as a form of economic exchange embedded in social relations.

33. The concepts of little traditions and great traditions are formulated by:

- (1) McKim Marriott
- (2) Milton Singer
- (3) Robert Redfield
- (4) Louis Dumont

Answer: Option (3) - Robert Redfield

Explanation: Robert Redfield introduced the concepts of Great Tradition and Little Tradition to explain cultural interaction between elite/scriptural and local/folk traditions.

34. Match List I with List II:

List I (Book): A. Tribal Heritage of India; B. Tribal Development in India; C. Tribe, Caste and Nation; D. Himalayan Polyandry

List II (Author): I. F.G. Bailey; II. S.C. Dube; III. B. Chaudhuri; IV. D.N. Majumdar

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

Answer: Option (1) - A-IV, B-II, C-I, D-III

Explanation: D.N. Majumdar is associated with Tribal Heritage of India; S.C. Dube with Tribal Development in India; F.G. Bailey with Tribe, Caste and Nation; and B. Chaudhuri with Himalayan Polyandry.

35. Who were the national level socialist leaders who entered the Kagodu Satyagraha?

- (1) Shanthaveri Gopala Gowda and Garuda Sharma
- (2) Khadri Shamanna and Eshwarappa
- (3) Ram Manohar Lohia and Jayaprakash Narayan
- (4) Ram Manohar Lohia and Shanthaveri Gopala Gowda

Answer: Option (3) - Ram Manohar Lohia and Jayaprakash Narayan

Explanation: Kagodu Satyagraha was a significant peasant struggle in Karnataka. National socialist leaders such as Ram Manohar Lohia and Jayaprakash Narayan became associated with the movement.

36. In which places did the Karnataka Land Reforms Act 1974 establish the land tribunals?

- (1) Taluks
- (2) Districts
- (3) Hoblis
- (4) Villages

Answer: Option (1) - Taluks

Explanation: Land Tribunals were created at the taluk level to decide tenancy and occupancy rights under land reforms. Taluk-level institutions enabled local adjudication.

37. The Mysore Tenancy and Agricultural Land Laws Committee was headed by:

- (1) B.D. Jatti
- (2) Kadidal Manjappa
- (3) S. Nijalingappa
- (4) D. Devaraj Urs

Answer: Option (1) - B.D. Jatti

Explanation: The Mysore Tenancy and Agricultural Land Laws Committee was chaired by B.D. Jatti. It examined tenancy and land law issues in the then Mysore State.

38. Directions for Questions 38 and 39: Each of the five persons - Arnav, Khushi, Anjali, Payal and Aakash - has to speak once on five different topics: Trade Policies, Politics, Business Ethics, Startup Economy and Fin-Tech. Conditions: Payal is to be the second to speak after the speech on Trade Policies; Anjali must speak before Aakash; the speech on Business Ethics is before the speech by Arnav; Khushi speaks on Startup Economy; the fourth speech is on Fin-Tech; and two speeches are between Business Ethics and Politics.

Who has to give the third speech?

- (1) Arnav
- (2) Khushi
- (3) Aakash
- (4) Anjali

Answer: Option (1) or (3) - Arnav or Aakash

Explanation: The revised key accepts both options because the condition 'second to speak after Trade Policies' can be read in two ways. Under one valid arrangement the third speaker is Aakash; under the alternate reading Arnav also becomes possible.

39. The last speech is on which topic?

- (1) Trade Policies
- (2) Fin-Tech
- (3) Business Ethics
- (4) Politics

Answer: Option (4) - Politics

Explanation: Since the fourth speech is on Fin-Tech and two speeches are to be placed between Business Ethics and Politics, the last speech is fixed as Politics in the valid arrangement.

40. If Rs. 500 amounts to Rs. 725 at 9% simple interest in some time, what will Rs. 800 amount to at 11% in the same time?

- (1) Rs. 1200
- (2) Rs. 1225
- (3) Rs. 1240
- (4) Rs. 1300

Answer: Option (3) - Rs. 1240

Explanation: For Rs. 500, simple interest = $725 - 500 = 225$. Time = $225 \times 100 / (500 \times 9) = 5$ years. For Rs. 800 at 11% for 5 years, interest = $800 \times 11 \times 5 / 100 = 440$, so amount = 1240.

41. Find the incorrect number in the given series: 3, 10, 31, 94, 284

- (1) 10
- (2) 31
- (3) 94
- (4) 284

Answer: Option (4) - 284

Explanation: The pattern is multiply by 3 and add 1: $3 \times 3 + 1 = 10$, $10 \times 3 + 1 = 31$, $31 \times 3 + 1 = 94$. The next should be $94 \times 3 + 1 = 283$, not 284.

42. The sum of the ages of 5 children born at an interval of 3 years each is 50 years. What is the age of the youngest child?

- (1) 4 years
- (2) 7 years
- (3) 6 years
- (4) 10 years

Answer: Option (1) - 4 years

Explanation: Let the youngest age be x . The ages are x , $x+3$, $x+6$, $x+9$ and $x+12$; their sum is $5x+30 = 50$, so $x = 4$ years.

43. Which of the following is not a food chain?

- (1) Grass - Goat - Lion
- (2) Grass - Frog - Snake
- (3) Grass - Sheep - Man
- (4) Grass - Snake - Deer

Answer: Option (4) - Grass - Snake - Deer

Explanation: A food chain moves from producer to herbivore to carnivore. Deer does not normally feed on snakes; therefore 'Grass - Snake - Deer' is not a correct food chain.

44. The discipline of Phytogeography deals with:

- (1) Animal life
- (2) Plant life
- (3) Study of Tribes
- (4) Ancient Civilisations

Answer: Option (2) - Plant life

Explanation: Phytogeography is the study of the geographical distribution of plants. It explains why different vegetation types occur in different regions.

45. What is ecological niche?

- (1) Interdependence of man and plant
- (2) Interrelation between man and environment
- (3) Role that an organism plays in the ecosystem
- (4) Relationship between man and other organisms

Answer: Option (3) - Role that an organism plays in the ecosystem

Explanation: An ecological niche includes the function, position, resource use and interactions of an

organism in an ecosystem. It is the organism's 'role' in the ecological system.

46. The functioning of an ecosystem involves:

- (1) Increasing of animal population
- (2) Planting of trees and bushes
- (3) An increasing simplicity of relations
- (4) Flow of energy and circulation of nutrients

Answer: Option (4) - Flow of energy and circulation of nutrients

Explanation: Ecosystems function through energy flow from producers to consumers and decomposers, and through nutrient cycling. These processes maintain ecological balance.

47. Find out the correct sequence of natural vegetation starting from Trivandrum to Kolkata:

- (1) Tropical Evergreen - Deciduous - Dry Savanna - Wet Deciduous
- (2) Deciduous - Dry Deciduous - Wet Deciduous - Tropical Evergreen
- (3) Wet Deciduous - Deciduous - Dry Savanna - Tropical Evergreen
- (4) Dry Savanna - Deciduous - Tropical Evergreen - Wet Deciduous

Answer: Option (1) - Tropical Evergreen - Deciduous - Dry Savanna - Wet Deciduous

Explanation: Moving from the humid southwest coast around Trivandrum toward eastern India, vegetation changes with rainfall and seasonal conditions. The accepted sequence in the key is evergreen to deciduous, then drier savanna type and wet deciduous toward the eastern side.

48. The seasonal movement of people with their animal flocks between highlands and lowlands is known as:

- (1) Nomadism
- (2) Shifting
- (3) Ranching
- (4) Transhumance

Answer: Option (4) - Transhumance

Explanation: Transhumance is seasonal migration of herders with livestock between highland and lowland pastures. It is different from general nomadism and commercial ranching.

49. The species which are restricted to be present in one region are called:

- (1) Endemic species
- (2) Edge species
- (3) Keystone species
- (4) Endangered species

Answer: Option (1) - Endemic species

Explanation: Endemic species are confined to a particular geographic area and are not naturally found elsewhere. This makes them important for regional biodiversity conservation.

50. Which of the following states has the highest percentage of tank irrigation?

- (1) Kerala
- (2) Karnataka
- (3) Himachal Pradesh
- (4) Punjab

Answer: Option (2) - Karnataka

Explanation: Among the options, Karnataka has a comparatively high dependence on tanks and traditional water bodies for irrigation in several regions. Kerala, Himachal Pradesh and Punjab depend more on other sources.

51. Conservation of natural resources aims at one of the following:

- (1) Complete ban on the use of resources
- (2) Some restriction on the use of resources
- (3) Dependency on natural resources
- (4) Rational use of natural resources

Answer: Option (4) - Rational use of natural resources

Explanation: Conservation does not mean complete non-use. It means planned, scientific and rational use so that resources remain available for present and future generations.

52. Mangrove vegetation in India is most extensively found in the region of:

- (1) Malabar Coast
- (2) Rajmahal Hills
- (3) Sundarban
- (4) Vindhya Range

Answer: Option (3) - Sundarban

Explanation: The Sundarbans in the Ganga-Brahmaputra delta contain India's largest mangrove forest. The region is famous for tidal forests and mangrove biodiversity.

53. Recently discovered non-leguminous N₂-fixing bacteria is:

- (1) Rhizobium
- (2) Azotobacter
- (3) Rhodospirillum
- (4) Spirulina

Answer: Option (2) - Azotobacter

Explanation: Azotobacter is a free-living, non-symbiotic nitrogen-fixing bacterium found in soil. Rhizobium is symbiotic and commonly associated with leguminous plants.

54. Etiology includes the study of:

- (1) Host

- (2) Pathogen
- (3) Parasite
- (4) Disease

Answer: Option (2) - Pathogen

Explanation: Etiology deals with the cause or origin of a disease. In infectious disease contexts, this involves identifying the causative pathogen.

55. Genomic library can be prepared by:

- (1) PCR technique
- (2) Colony hybridization
- (3) Shotgun experiment
- (4) All of the above

Answer: Option (3) - Shotgun experiment

Explanation: A genomic library is prepared by fragmenting total genomic DNA and cloning the fragments. The shotgun method is a standard approach for generating such DNA fragment libraries.

56. In an examination, 70% of the students passed in English and 65% in Mathematics and 25% students failed in both English and Mathematics. The total number of students who passed in the examination are 250. What is the number of students who appeared in the examination?

- (1) 500
- (2) 417
- (3) 450
- (4) 325

Answer: Option (2) - 417

Explanation: Students passing at least one subject = 75% because 25% failed both. Passing both = 70% + 65% - 75% = 60%. If 60% equals 250, total = $250/0.60 = 416.67$, approximated to 417.

57. Choose the missing term out of the given alternatives from the series: BXJ, FVM, JTP, NRS, ?

- (1) SXU
- (2) RPV
- (3) RXW
- (4) QYV

Answer: Option (2) - RPV

Explanation: The first letters increase by 4: B, F, J, N, R. The second letters decrease by 2: X, V, T, R, P. The third letters increase by 3: J, M, P, S, V. Hence the next term is RPV.

58. A and B's salaries together amount to Rs. 20,000. A spends 95% of his salary and B spends 85% of his. If now their savings are the same, what is A's salary?

- (1) Rs. 5,000
- (2) Rs. 7,500

(3) Rs. 12,500

(4) Rs. 15,000

Answer: Option (4) - Rs. 15,000

Explanation: Let A's salary be x and B's be $20,000 - x$. A saves 5% and B saves 15%. So $0.05x = 0.15(20,000 - x)$; $0.20x = 3000$; $x = 15,000$.

59. The sum of the ages of a father and son is 45 years. Five years ago, the product of their ages was four times the father's age at that time. The present ages (in years) of the father and son are:

(1) 34, 11

(2) 35, 10

(3) 36, 9

(4) 40, 15

Answer: Option (3) - 36, 9

Explanation: Let father's and son's present ages be F and S . $F+S=45$. Five years ago, $(F-5)(S-5)=4(F-5)$, so $S-5=4$ and $S=9$; hence $F=36$.

60. A society that celebrates the harvest festival of Huttari in Karnataka is:

(1) Kadu Kuruba

(2) Koragaru

(3) Soliga

(4) Kodava

Answer: Option (4) - Kodava

Explanation: Huttari or Puthari is the harvest festival celebrated by the Kodava community in Kodagu. It marks the ceremonial harvest of new paddy.

61. The temple built by Vishnuvardhana to commemorate the defeat of Cholas in Talakadu is:

(1) Keerthi Narayana of Talakadu

(2) Kappe Chennigaraya

(3) Veerananarayana of Belavadi

(4) Chennakeshava of Beluru

Answer: Option (1) or (4) - Keerthi Narayana of Talakadu or Chennakeshava of Beluru

Explanation: The revised key accepts both. Vishnuvardhana is associated with temples built after victories over the Cholas, especially the Chennakeshava temple at Belur and the Kirtinarayana temple at Talakad in related historical traditions.

62. Haridasa who wrote Krishana Charitra is:

(1) Kanakadasa

(2) Vijayadasa

(3) Purandaradasa

(4) Jagannathadasa

Answer: Option (1) - Kanakadasa

Explanation: Kanakadasa, a prominent Haridasa saint-poet, composed works including Krishna Charitre. He made major contributions to Kannada devotional literature.

63. Pietro Della Valle, the Italian traveller, visited whose court in Ikkeri?

- (1) Sadashiva Nayaka
- (2) Chikkasankanna Nayaka
- (3) Venkatappa Nayaka
- (4) Shivappa Nayaka

Answer: Option (3) - Venkatappa Nayaka

Explanation: The Italian traveller Pietro Della Valle visited the Ikkeri/ Keladi court during the time of Venkatappa Nayaka. His travel accounts provide important historical details.

64. A bag contains 2 Red, 3 Green and 2 Blue balls. 2 balls are to be drawn randomly. What is the probability that the balls drawn contain no blue ball?

- (1) $5/7$
- (2) $10/21$
- (3) $2/7$
- (4) $11/21$

Answer: Option (2) - $10/21$

Explanation: Total balls = 7; non-blue balls = 5. Probability of drawing 2 non-blue balls = $C(5,2)/C(7,2)$ = $10/21$.

65. Which of the following is a measure of central value?

- (1) Median
- (2) Standard Deviation
- (3) Mean Deviation
- (4) Quartile Deviation

Answer: Option (1) - Median

Explanation: Median is a measure of central tendency or central value. Standard deviation, mean deviation and quartile deviation are measures of dispersion.

66. Presently the base year used for National Income estimation in India is:

- (1) 2005-06
- (2) 2011-12
- (3) 2014-15
- (4) 2019-20

Answer: Option (2) - 2011-12

Explanation: India's current GDP/national income series uses 2011-12 as the base year. Base years are

periodically updated to reflect structural changes in the economy.

67. Under the recommendation of which of the following committees, RBI decided to transfer its surplus reserves to the Government of India?

- (1) Bimal Jalan Committee
- (2) Urjit Patel Committee
- (3) Raghuram Rajan Committee
- (4) Arvind Subramanian Committee

Answer: Option (1) - Bimal Jalan Committee

Explanation: The Bimal Jalan Committee reviewed the Economic Capital Framework of RBI. Its recommendations guided the transfer of surplus reserves to the Government of India.

68. In which of the following year was Effective Revenue Deficit introduced?

- (1) 2008
- (2) 2015
- (3) 2012
- (4) 2010

Answer: Option (3) - 2012

Explanation: Effective Revenue Deficit was introduced in the Union Budget 2011-12/operationalized from the 2012 period to distinguish grants used for capital asset creation from ordinary revenue deficit.

69. The sector least impacted by pandemic-related disruptions was:

- (1) Agriculture sector
- (2) Industry sector
- (3) Service sector
- (4) Tertiary sector

Answer: Option (1) - Agriculture sector

Explanation: During the pandemic, agriculture was relatively less disrupted compared to industry and services because essential agricultural activities continued and rural production was less contact-intensive.

70. An inflation that shows price rise in all goods and services excluding food and energy is known as:

- (1) Shrinkflation
- (2) Skewflation
- (3) Core Inflation
- (4) Structural Inflation

Answer: Option (3) - Core Inflation

Explanation: Core inflation measures inflation after excluding volatile food and energy components. It is used to understand underlying price trends.

71. Who has developed the 'HASIRU' software in Karnataka?

- (1) Horticulture Department
- (2) Forest Department
- (3) Panchayati Raj Department
- (4) Land Reforms Department

Answer: Option (1) - Horticulture Department

Explanation: HASIRU is associated with Karnataka's Horticulture Department. It supports departmental monitoring and implementation related to horticulture activities.

72. Who is the founder of Institute for Social and Economic Change in Bengaluru?

- (1) Dr. M. Vishweshwaraiah
- (2) Dr. V.K.R.V. Rao
- (3) Devaraj Arasu
- (4) Ramakrishna Hegde

Answer: Option (2) - Dr. V.K.R.V. Rao

Explanation: The Institute for Social and Economic Change (ISEC), Bengaluru, was founded by the economist Dr. V.K.R.V. Rao. It is a prominent social science research institute.

73. Which Bill was proposed to be passed to solve problems in infrastructure contracts, PPP and Public Utilities?

- (1) Skill Development Programme Bill
- (2) Companies (Amendment) Bill
- (3) Public Utility (Resolution of Disputes) Bill
- (4) Goods and Services Tax Bill

Answer: Option (3) - Public Utility (Resolution of Disputes) Bill

Explanation: This Bill was proposed to provide mechanisms for resolving disputes in public utility and infrastructure-related contracts, including PPP projects.

74. Arrange the following stages in the enactment of budget in proper order:

I. General discussion

II. Passing of the Appropriation Bill

III. Passing of the Finance Bill

IV. Voting of Demands for Grants

V. Presentation to legislature

- (1) I, II, III, IV, V
- (2) V, I, II, III, IV
- (3) V, I, IV, III, II
- (4) V, I, IV, II, III

Answer: Option (4) - V, I, IV, II, III

Explanation: The normal sequence is presentation of budget, general discussion, voting on demands for

grants, passing of the Appropriation Bill and then passing of the Finance Bill. The revised key accepts option (4).

75. Which cess is/are levied 0.5 per cent on all services?

- (1) Swachh Bharat
- (2) Krishi Kalyan
- (3) Kaushal Vikas
- (4) Both (1) and (2)

Answer: Option (4) - Both (1) and (2)

Explanation: Swachh Bharat Cess and Krishi Kalyan Cess were each levied at 0.5% on taxable services in the pre-GST service tax regime. Kaushal Vikas was not the accepted cess in this question.

76. The Kannada and Culture Department, Government of Karnataka ordered to celebrate 'Onake Obavva Jayanti' on _____ in memory of Onake Obavva in Karnataka.

- (1) October 5th
- (2) November 11th
- (3) December 6th
- (4) November 14th

Answer: Option (2) - November 11th

Explanation: Onake Obavva Jayanti is observed on November 11 in Karnataka to honour the bravery of Onake Obavva of Chitradurga.

77. Consider the following statements:

Assertion (A): Public health, public sanitation and public utility services are maintained by Gram Panchayats.

Reason (R): Maintenance of law and order does not come under the purview of Gram Panchayats.

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true, but (R) is not the correct explanation of (A)
- (3) (A) is true, but (R) is false
- (4) Both (A) and (R) are false

Answer: Option (2) - Both (A) and (R) are true, but (R) is not the correct explanation of (A)

Explanation: Gram Panchayats do perform civic functions such as sanitation and local public services. Law and order is handled by police/state administration, but this fact does not explain why Gram Panchayats maintain sanitation and public utilities.

78. Consider the following statements:

Assertion (A): A co-operative organisation shall have voluntary and open membership.

Reason (R): The main objective of a co-operative organisation is to make profit.

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true, but (R) is not the correct explanation of (A)
- (3) (A) is true, but (R) is false

(4) Both (A) and (R) are false

Answer: Option (3) - (A) is true, but (R) is false

Explanation: Voluntary and open membership is a core cooperative principle. Cooperatives primarily aim at mutual benefit and service to members, not profit maximisation.

79. Match List I with List II:

A. Narasimham Committee; B. Balawant Rai Mehta Committee; C. Raja Chelliah Committee; D. Khusro Committee

List II: I. Tax reforms in India; II. Agricultural credit system; III. Banking reforms; IV. Panchayati raj reforms; V. Public distribution system

- (1) A-I, B-III, C-II, D-IV
- (2) A-IV, B-II, C-I, D-III
- (3) A-III, B-I, C-II, D-V
- (4) A-III, B-IV, C-I, D-II

Answer: Option (4) - A-III, B-IV, C-I, D-II

Explanation: Narasimham Committee is associated with banking reforms; Balwant Rai Mehta with Panchayati Raj; Raja Chelliah with tax reforms; and Khusro Committee with the agricultural credit system.

80. Match List I with List II:

List I:

List II:

A. 52nd Amendment of the Constitution; I. Panchayati Raj

B. 73rd Amendment of the Constitution; II. Reservation for Scheduled Castes/Tribes

C. 77th Amendment of the Constitution; III. Free and compulsory education for children aged 6 to 14 years

**D. 86th Amendment of the Constitution IV. Prohibition of Defection
V. Internal Emergency**

- (1) A-IV, B-I, C-II, D-III
- (2) A-I, B-V, C-III, D-IV
- (3) A-II, B-III, C-I, D-V
- (4) A-IV, B-II, C-V, D-I

Answer: Option (1) - A-IV, B-I, C-II, D-III

Explanation: The 52nd Amendment added the anti-defection law; 73rd Amendment constitutionalised Panchayati Raj; 77th Amendment relates to reservation in promotion for SC/ST; 86th Amendment made education a fundamental right for children aged 6-14 years.

81. Which Indian organisation conducts a training programme named 'Yuvika' for school children?

- (1) Defence Research and Development Organisation
- (2) Bhabha Atomic Research Centre
- (3) Indian Space Research Organisation
- (4) Council of Scientific and Industrial Research

Answer: Option (3) - Indian Space Research Organisation

Explanation: YUVIKA, or Young Scientist Programme, is conducted by ISRO to create awareness among school students about space science and technology.

82. Name the scheme introduced by the Government of India for survey and mapping of villages with improved technology:

- (1) e-Governance Scheme
- (2) Gramodaya Scheme
- (3) SVAMITVA Scheme
- (4) e-Village Scheme

Answer: Option (3) - SVAMITVA Scheme

Explanation: SVAMITVA uses drone-based surveying and modern mapping to provide property records in rural inhabited areas. It stands for Survey of Villages and Mapping with Improvised Technology in Village Areas.

83. After which movement was the name 'Gandhi Province' given to Karnataka?

- (1) The Civil Disobedience Movement (1930)
- (2) The Quit India Movement (1942)
- (3) The Swadeshi Movement (1905)
- (4) Non-Cooperation Movement (1920)

Answer: Option (1) - The Civil Disobedience Movement (1930)

Explanation: Karnataka's strong participation in the Civil Disobedience Movement, including salt satyagraha-related mobilisation, led to the popular description 'Gandhi Province'.

84. 1924 Belgaum Session of the Indian National Congress was presided over by:

- (1) Moti Lal Nehru
- (2) C.R. Das
- (3) Jawahar Lal Nehru
- (4) Mahatma Gandhi

Answer: Option (4) - Mahatma Gandhi

Explanation: The 1924 Belgaum session was the only Indian National Congress session presided over by Mahatma Gandhi. It is historically important for Karnataka.

85. The English East India Company established their first factory in India in:

- (1) Surat
- (2) Balasore
- (3) Madras
- (4) Calcutta

Answer: Option (1) - Surat

Explanation: The English East India Company established its first major factory at Surat in 1612/1613

after securing trading rights. Surat became an early centre of English trade in India.

86. Who was the Mughal Emperor at the time of Ahmad Shah Abdali's invasion of India?

- (1) Muhammad Shah
- (2) Ahmad Shah
- (3) Shah Alam I
- (4) Shah Alam II

Answer: Option (1) or (2) - Muhammad Shah or Ahmad Shah

Explanation: The revised key accepts both options due to ambiguity regarding which Abdali invasion is referred to. Abdali's early invasion occurred around the transition from Muhammad Shah to Ahmad Shah Bahadur, so both were accepted.

87. Karnataka has the 8th position in terms of percentage of urban population to total population of the states in India. Identify the correct percentage of urban population of Karnataka as per 2011 census:

- (1) 40.0%
- (2) 38.6%
- (3) 36.6%
- (4) 35.6%

Answer: Option (2) - 38.6%

Explanation: According to Census 2011, Karnataka's urban population share is about 38.6%. This placed the state relatively high among Indian states in urbanisation.

88. Boreal biome refers to:

- (1) Taiga biome
- (2) Monsoon biome
- (3) Laurentian biome
- (4) Ethiopian biome

Answer: Option (1) - Taiga biome

Explanation: Boreal forest is also called the Taiga biome. It consists mainly of coniferous forests across the high latitudes of the Northern Hemisphere.

89. Which city will host the 2024 Olympic Games?

- (1) Paris
- (2) London
- (3) Los Angeles
- (4) Doha

Answer: Option (1) - Paris

Explanation: The 2024 Summer Olympic Games were awarded to Paris. Los Angeles is the host of the 2028 Olympics.

90. Which of the following earthquake waves are more destructive at the epicentre?

- (1) S waves
- (2) P waves
- (3) R waves
- (4) L waves

Answer: Option (4) - L waves

Explanation: Surface waves, especially Love (L) waves and Rayleigh waves, cause the greatest damage near the surface and around the epicentral area. P and S waves are body waves.

91. Match List I with List II:

List I - Types of Mountain:

List II - Examples:

A. Folded Mountain;

I. Cotopaxi

B. Volcanic Mountain;

II. Adirondack of New York

C. Fault Block Mountain;

III. Himalayas

D. Upwarped (Domed) Mountain **IV. Sierra Nevada of California**

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

Answer: Option (2) - A-III, B-I, C-IV, D-II

Explanation: Himalayas are folded mountains; Cotopaxi is a volcanic mountain; Sierra Nevada is commonly cited as a fault-block mountain; Adirondacks are upwarped/domed mountains.

92. Which of the following regions are known for coal and petroleum production in the world?

A. Donbas

B. Masjid-e-Sulaiman

C. Lake Superior

D. Gulf of Maracaibo

- (1) A and B
- (2) A, B and C
- (3) A, B and D
- (4) B, C and D

Answer: Option (3) - A, B and D

Explanation: Donbas is a major coal region; Masjid-e-Sulaiman is associated with petroleum in Iran; Gulf of Maracaibo is a famous petroleum region. Lake Superior is known mainly for iron ore, not petroleum.

93. Match List I with List II:

List I - Avalanche Zone: List II - Characteristics:

- | | |
|---|--|
| A. Red Zone; | I. Where snow avalanches are most frequent |
| B. Yellow Zone;
safe designs | II. Where living and other activities may be permitted with connection of |
| C. Blue Zone | III. Where snow avalanches occur only occasionally |
| | IV. Snow avalanche-free zone |

- (1) A-I, B-II, C-IV
- (2) A-I, B-III, C-II
- (3) A-II, B-IV, C-III
- (4) A-I, B-IV, C-II

Answer: Option (2) - A-I, B-III, C-II

Explanation: Red zone is the highest danger area where avalanches are frequent. Yellow zone has occasional avalanches, while blue zone may permit activities with proper safety designs.

94. Match List I with List II:

List I (Tribals): List II (State/Union Territory of their distribution):

- | | |
|--------------------|------------------------------|
| A. Gaddis; | I. Himachal Pradesh |
| B. Gujjars; | II. Jammu and Kashmir |
| C. Bhotia; | III. Manipur |
| D. Kuki | IV. Uttarakhand |

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

Answer: Option (1) - A-II, B-I, C-IV, D-III

Explanation: The accepted matching in the key is Gaddis-Jammu and Kashmir, Gujjars-Himachal Pradesh, Bhotia-Uttarakhand and Kuki-Manipur.

95. Consider the following statements:

- I. In 2011, India had 17.64% of decadal growth of population.**
- II. The 2011 Indian census was the 15th census.**
- III. In India, census has been conducted since 1872.**

Which of the above is/are correct?

- (1) Only I
- (2) Only II
- (3) I, II and III
- (4) I and II only

Answer: Option (3) - I, II and III

Explanation: India's 2011 Census recorded a decadal population growth of about 17.64%. It was the

15th Census and the 7th after independence; the census exercise in India began in 1872.

96. Which sea is located to the south of Ukraine?

- (1) Red Sea
- (2) Caspian Sea
- (3) Baltic Sea
- (4) Black Sea

Answer: Option (4) - Black Sea

Explanation: Ukraine lies north of the Black Sea. Important Ukrainian ports such as Odesa are on the Black Sea coast.

97. Match List I with List II:

List I (Tribes): List II (Habitat):

- A. Bushmen; I. Greenland**
B. Bora; II. Congo Basin
C. Pygmy; III. Amazon Basin
D. Eskimo IV. Kalahari

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

Answer: Option (2) - A-IV, B-III, C-II, D-I

Explanation: Bushmen are associated with the Kalahari; Bora with the Amazon Basin; Pygmies with the Congo Basin; and Eskimos/Inuit with Arctic regions including Greenland.

98. Oxidation state of nitrogen in NO₂ is:

- (1) +3
- (2) +2
- (3) +1
- (4) +4

Answer: Option (4) - +4

Explanation: In NO₂, each oxygen has oxidation state -2, total -4. Since the molecule is neutral, nitrogen must be +4.

99. Karnataka Government's fiscal deficit for 2022-2023 was targeted at:

- (1) 4.5% of GSDP
- (2) 5.25% of GSDP
- (3) 2.41% of GSDP

(4) 3.26% of GSDP

Answer: Option (4) - 3.26% of GSDP

Explanation: The fiscal deficit target for Karnataka in 2022-23 was around 3.26% of GSDP. This indicator shows the borrowing requirement relative to the state economy.

100. Measuring backwardness of taluks in the State of Karnataka, the High Powered Committee for Redressal of Regional Imbalances (HPCRRI - 2000) recommended which of the following indicators?

- (1) All the indicators considered pertained to 4 main sectors: Agriculture, Industry, Economic Infrastructure, Population Characteristics
- (2) All the indicators considered pertained to 5 main sectors: Agriculture, Industry, Economic Infrastructure, Information Technology, Education
- (3) The 35 indicators considered pertained to 5 main sectors: Agriculture, Industry, Economic Infrastructure, Social Infrastructure, Population Characteristics
- (4) The 30 indicators considered pertained to 5 main sectors: Agriculture, Industry, Economic Infrastructure, Population Characteristics, Social Infrastructure

Answer: Option (3) - The 35 indicators considered pertained to 5 main sectors: Agriculture, Industry, Economic Infrastructure, Social Infrastructure, Population Characteristics

Explanation: The High Powered Committee measured regional imbalance using a composite set of 35 indicators. These were grouped under five broad sectors: agriculture, industry, economic infrastructure, social infrastructure and population characteristics.

Answer Key - Series B

Q.No.	Ans	Q.No.	Ans	Q.No.	Ans	Q.No.	Ans
1	3	26	3	51	4	76	2
2	1	27	4	52	3	77	2
3	4	28	2	53	2	78	3
4	3	29	2	54	2	79	4
5	1	30	4	55	3	80	1
6	4	31	2	56	2	81	3
7	3	32	1	57	2	82	3
8	1	33	3	58	4	83	1
9	2	34	1	59	3	84	4
10	4	35	3	60	4	85	1
11	2	36	1	61	1 or 4	86	1 or 2
12	1	37	1	62	1	87	2
13	2	38	1 or 3	63	3	88	1
14	3	39	4	64	2	89	1
15	2	40	3	65	1	90	4
16	1	41	4	66	2	91	2
17	2	42	1	67	1	92	3
18	3	43	4	68	3	93	2
19	1	44	2	69	1	94	1
20	2	45	3	70	3	95	3
21	2	46	4	71	1	96	4
22	4	47	1	72	2	97	2
23	3	48	4	73	3	98	4
24	1	49	1	74	4	99	4
25	3	50	2	75	4	100	3