



CUET PG Public Health 27th March 2024 Shift 3

Time Allowed: 3 Hours	Maximum Marks: 300	Total Questions: 75
------------------------------	---------------------------	----------------------------

General Instructions

Read the following instructions very carefully and strictly follow them:

1. This question paper comprises 75 questions. All questions are compulsory.
2. Each question carries 04 (four) marks.
3. For each correct response, the candidate will get 04 (four) marks.
4. For each incorrect response, 01 (one) mark will be deducted from the total score.
5. Un-answered/un-attempted responses will be given no marks.
6. To answer a question, the candidate needs to choose one option as the correct option.
7. However, after the process of Challenges of the Answer Key, in case there are multiple correct options or a change in the key, only those candidates who have attempted it correctly as per the revised Final Answer Key will be awarded marks.
8. In case a question is dropped due to some technical error, full marks shall be given to all the candidates irrespective of whether they have attempted it or not.

1. The way society is organised around the regulated ways people interrelate and organise social life is known as ...in sociology.

1. Social Processes
2. Social Structure
3. Social Mobility
4. Social Interaction

Correct Answer: 2. Social Structure

Solution: In sociology, "Social Structure" refers to the organised and regulated ways in which individuals and groups in society interact, interrelate, and organise their lives. It encompasses the norms, values, institutions, and relationships that create a framework for social life. This structure helps maintain order and predictability within society, distinguishing it from "Social Processes" (changes and interactions within society), "Social Mobility" (movement within social hierarchies), and "Social Interaction" (individual and group interactions).

Quick Tip

Social structure serves as the backbone of society, regulating relationships and institutions to maintain order and predictability.

2. Who introduced the concept of positivism to sociology?

- (1) Aristotle
- (2) Auguste Comte
- (3) George Ritzer
- (4) Karl Marx

Correct Answer: (2) Auguste Comte

Solution: Auguste Comte, a French philosopher, introduced the concept of positivism in sociology. He emphasized the use of scientific methods to study and understand society, proposing that sociology should rely on empirical evidence and observable facts.



Quick Tip

Positivism advocates the application of scientific methods and empirical observation in studying social phenomena.

3. According to the Social Conflict Model, is the way in which changes occur in a society.

- (1) Redefining the situation
- (2) Promoting symbolic interactions
- (3) Revolutions
- (4) Implement tight legal measures

Correct Answer: (3) Revolutions

Solution: According to the Social Conflict Model, revolutions are the primary means through which significant changes occur in society. This model emphasizes how conflicts between different social groups, such as classes, often lead to revolutionary changes that reshape societal structures and systems.

Quick Tip

The Social Conflict Model highlights that societal change often arises from the tension and struggle between competing social classes, leading to revolutions.

4. Arrange the following sociological developments in a chronological order (oldest to the recent):

- (A) Social Conflict Theory
- (B) Positivism
- (C) Multicultural Perspective
- (D) Structural Functionalism

Choose the correct answer from the options given below:

1. (A), (B), (C), (D)



2. (A), (C), (B), (D)
3. (B), (A), (D), (C)
4. (D), (B), (A), (C)

Correct Answer: 4. (D), (B), (A), (C)

Solution: The correct chronological order of these sociological developments is as follows: -

Structural Functionalism (D): Developed during the late 19th and early 20th centuries as a framework to understand social stability and cohesion. - **Positivism (B):** Introduced by Auguste Comte in the early 19th century, emphasizing scientific observation and empirical data. - **Social Conflict Theory (A):** Popularized in the mid-20th century with contributions from Karl Marx and other sociologists, focusing on class struggles and societal inequalities. - **Multicultural Perspective (C):** Emerged more recently in the late 20th century, emphasizing diversity, cultural awareness, and pluralism.

Quick Tip

Always review the historical context and key contributors when arranging sociological theories chronologically to understand their evolution.

5. A group is characterised by the following features:

- (A) Interact regularly / Often
- (B) Have some shared interest
- (C) Develop some sense of belongingness
- (D) Always live in the same geographical area

Choose the correct answer from the options given below:

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

Correct Answer: 1. (A), (B) and (C) only



Solution: The correct answer includes the following features:

Interact regularly / Often (A): Interaction is a key characteristic of a group. Members communicate frequently.

Have some shared interest (B): Groups typically form around common interests or goals.

Develop some sense of belongingness (C): Members feel connected and identify with the group.

However, living in the same geographical area (D) is not a necessary condition for a group, as groups can exist virtually or across distances.

Quick Tip

Not all groups require geographical proximity. Focus on shared interaction, interests, and belongingness as defining characteristics.

6. Match List I with List II:

LIST I (Concept)	LIST II (Explanation)
A. Growth	Increase in the size of the body parts of the organism
B. Development	The process by which an individual grows and changes throughout the life cycle
C. Evolution	Species specific changes over a long period of time
D. Maturation	The changes that follow an orderly sequence and are largely dictated by the genetic blueprint

Choose the correct answer from the options given below:

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



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

Solution: The correct matching is as follows: - **Growth (A) - (II):** Growth refers to the increase in the size of the body parts or the organism as a whole. - **Development (B) - (III):** Development involves the process by which an individual grows and changes throughout their life cycle. - **Evolution (C) - (IV):** Evolution refers to species-specific changes occurring over long periods of time. - **Maturation (D) - (I):** Maturation describes the changes that follow an orderly sequence and are primarily dictated by genetic factors.

Quick Tip

Focus on the distinctions between growth, development, evolution, and maturation to correctly match these concepts with their explanations.

7. In Psychology, refers to reacting to another person's feelings with an emotional response that is similar to their own feelings.

1. Sympathy
2. Empathy
3. Coping
4. Reassuring

Correct Answer: 2. Empathy

Solution: Empathy involves understanding and sharing another person's emotional experience. It is the ability to put oneself in another's position and feel what they are feeling, creating an emotional connection. - **Sympathy:** While related, sympathy refers to feeling sorrow or pity for someone else's misfortune but not necessarily sharing their emotional state. - **Coping:** Coping refers to the efforts to manage stress and emotional strain, not specifically related to others' feelings. - **Reassuring:** This involves comforting someone, often with words or actions, but does not imply sharing their feelings.



Quick Tip

Empathy is distinguished by experiencing emotions similar to another person, whereas sympathy involves understanding without sharing the same feelings.

8. Match List I with List II:

List I (Explanation)

- (A) An overgeneralised and unverified prototype about a particular group.
- (B) The use of any psychological technique in the treatment of mental/psychological disorder or maladjustment.
- (C) A therapy in which the underlying assumption is that people have control over their behaviour, can make choices about their lives.
- (D) A relatively persistent and consistent behaviour pattern manifested in a wide range of circumstances.

List II (Concept/Theory)

- I. Psychotherapy
- II. Stereotype
- III. Humanistic Therapy
- IV. Trait

Choose the correct answer from the options given below:

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

Correct Answer: 3. (A) - (II), (B) - (I), (C) - (III), (D) - (IV)

Solution:

- (A) - (II): A stereotype is an overgeneralised and unverified belief about a particular group.



- (B) - (I): Psychotherapy involves using psychological techniques for treating mental or psychological disorders.
- (C) - (III): Humanistic Therapy is based on the assumption that individuals have control over their behaviour and can make life choices.
- (D) - (IV): A trait refers to a relatively persistent and consistent behaviour pattern evident across various circumstances.

Quick Tip

Matching questions require understanding the key concepts and their applications. Focus on the definitions and core ideas of the terms.

9. Sigmund Freud proposed three parts of personality as:

1. Id-Ego-Superego
2. Subconscious-Unconscious-Conscious
3. Introvert-Extrovert-Complex
4. Emotional-Cognitive-Affective

Correct Answer: 1. Id-Ego-Superego

Solution: Sigmund Freud, the father of psychoanalysis, introduced the concept of the tripartite structure of personality:

- **Id:** The primitive and instinctual part of the mind that operates based on the pleasure principle.
- **Ego:** The rational part that mediates between the unrealistic id and the external real world, operating on the reality principle.
- **Superego:** The ethical component that represents moral standards and ideals, striving for perfection.

This model helps explain human behaviour through the interaction of these three components.



Quick Tip

Freud's personality theory is fundamental in psychology, dividing the mind into Id (instinctual), Ego (rational), and Superego (moralistic) components.

10. Consider the following statements and select the correct options:

- (A). Proteins are made of amino acids.
- (B). Essential amino acids are those which the body cannot synthesise in the required amounts.
- (C). Mid Day Meal Programme of Government of India exclusively targets beggars, street vendors, etc.
- (D). ICDS scheme of Government of India predominantly supports the nutritional requirement of 0-6 years children in the country.

Choose the correct answer from the options given below:

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

Correct Answer: 1. (A), (B) and (D) only.

Solution:

- **Statement (A):** Correct. Proteins are macromolecules made up of amino acids linked by peptide bonds.
- **Statement (B):** Correct. Essential amino acids cannot be synthesized by the human body and must be obtained through diet.
- **Statement (C):** Incorrect. The Mid Day Meal Programme targets school-going children, not beggars or street vendors.
- **Statement (D):** Correct. The Integrated Child Development Services (ICDS) scheme focuses on the nutritional needs of children aged 0-6 years, along with pregnant and lactating mothers.



Therefore, the correct combination is (A), (B), and (D).

Quick Tip

Remember, the Mid Day Meal Programme aims to enhance school attendance and nutrition among children, while ICDS targets early childhood nutrition and health.

11. The National Nutrition Policy was announced in....and improving the purchasing power of the urban and rural poor was mentioned as an.....

Options:

1. 1993, Indirect policy instrument
2. 1998, Indirect policy instrument
3. 1993, Direct short-term intervention
4. 1978, Direct short-term intervention

Correct Answer: 1. 1993, Indirect policy instrument

Solution: The National Nutrition Policy was announced in 1993 with a focus on addressing malnutrition through a variety of approaches. Improving the purchasing power of the urban and rural poor was identified as an *indirect policy instrument* because it aims to enhance access to food and other basic necessities by boosting economic capacity, rather than direct nutritional supplementation.

Quick Tip

Indirect policy instruments address broader economic and social factors influencing nutrition, such as income levels and market access, rather than directly targeting malnutrition symptoms.

12. Arrange the following designs with respect to hypothesis test/cause-effect relationship (least to highest):



- (A) Experimental designs
- (B) Exploratory qualitative designs
- (C) Longitudinal designs
- (D) Cross-sectional quantitative designs

Options:

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

Correct Answer: 2. (B), (D), (C), (A)

Solution: The hierarchy of research designs with respect to hypothesis testing and cause-effect relationships starts with the least structured and progresses to the most rigorous:

- **Exploratory qualitative designs (B):** Least structured, used to explore phenomena without a strong focus on hypothesis testing.
- **Cross-sectional quantitative designs (D):** Provide a snapshot of data at a single point in time, often used for correlations.
- **Longitudinal designs (C):** Track changes over time, helping to establish temporal sequences.
- **Experimental designs (A):** Most structured and effective for testing hypotheses and establishing cause-effect relationships.

Quick Tip

Experimental designs are best for establishing cause-effect relationships due to controlled conditions, while exploratory qualitative designs are more suited for generating hypotheses.

13. Which among the following is NOT a limitation of experimental designs?



Options:

1. Ethical issues with the participants
2. Small sample size
3. Non-representative nature of the sample
4. The ability to replicate the findings

Correct Answer: 4. The ability to replicate the findings

Solution: Experimental designs, though powerful in establishing cause-effect relationships, have certain limitations:

- Ethical issues may arise concerning participant rights and well-being.
- They often involve small sample sizes due to resource constraints.
- The sample may not always represent the broader population, limiting generalizability.

However, **the ability to replicate findings is a strength of experimental designs, not a limitation**, as the controlled conditions allow for consistency in repeated studies.

Quick Tip

Experimental designs are valued for their replicability, making them reliable tools for hypothesis testing and validation.

14.in which the researcher studies an intact cultural group in a natural setting over a prolonged period of time by collecting, primarily, observational data.

Options:

1. Phenomenological Research
2. Experimental Research
3. Ethnography
4. Grounded Approach

Correct Answer: 3. Ethnography



Solution: Ethnography is a qualitative research method used to study cultural groups in their natural settings over an extended period. It involves collecting observational data, interviews, and artifacts to understand the group's way of life, behaviors, and interactions.

- **Phenomenological Research:** Focuses on individuals' lived experiences.
- **Experimental Research:** Involves controlled experiments to establish cause-effect relationships.
- **Grounded Approach:** A method to develop theories based on data collected from the field.
- **Ethnography:** Aims to deeply understand cultural practices in a natural context.

Thus, the correct answer is **Ethnography**.

Quick Tip

Ethnography is ideal for exploring and documenting cultural practices in real-world settings.

15. Arrange the following steps in a qualitative research in the order of its occurrence (first to last):

- (A) Develop rapport with the community
- (B) Identify the problem
- (C) Data analysis and report writing
- (D) Participant observation

Options:

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

Correct Answer: 2. (B), (A), (D), (C).



Solution: The sequence of steps in a qualitative research process is as follows:

1. **Identify the problem:** The research process begins with identifying the issue or problem to be explored.
2. **Develop rapport with the community:** Building trust with the community is essential to ensure participants feel comfortable and provide authentic data.
3. **Participant observation:** This step involves actively engaging with and observing the participants to collect rich and detailed data.
4. **Data analysis and report writing:** The final step is to analyze the collected data and prepare a comprehensive report presenting the findings.

Thus, the correct order is **(B), (A), (D), (C)**.

Quick Tip

Qualitative research emphasizes understanding the context and perspective of participants through detailed observations and interactions.

16. is an example of critical collaborative ethnography in which researchers conduct field research, but community participants are collaborators in the process, so as to develop practical solutions to the problem.

Options:

1. Ethnography
2. Participatory Action Research
3. Social Constructivist Research
4. Phenomenological Research

Correct Answer: 2. Participatory Action Research

Solution: Participatory Action Research (PAR) is a type of research methodology that emphasizes collaboration between researchers and community participants. The goal is to involve the community in the research process, ensuring that their perspectives are included



in developing practical solutions to the identified problems. This approach is distinct because it merges research with action, fostering meaningful change while generating insights.

Quick Tip

Participatory Action Research combines collaboration with practical problem-solving, making it a valuable approach in applied social sciences.

17. Arrange the following events in chronological order (oldest to the recent):

- (A) Chadwick Sanitary Reforms
- (B) Sustainable Development Goals
- (C) Alma Ata Declaration
- (D) Millennium Development Goals

Choose the correct answer from the options given below:

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

Correct Answer: 2. (A), (C), (D), (B)

Solution: The correct chronological order is as follows:

- **Chadwick Sanitary Reforms:** Introduced in the mid-19th century to improve public health and sanitation.
- **Alma Ata Declaration:** Adopted in 1978, emphasizing primary healthcare as essential for health for all.
- **Millennium Development Goals (MDGs):** Launched in 2000 to address global development challenges.
- **Sustainable Development Goals (SDGs):** Adopted in 2015, succeeding the MDGs with a broader framework for global development.



This sequence reflects the progression of public health and global development priorities.

Quick Tip

Understanding the timeline of global health and development milestones helps in contextualizing progress and ongoing challenges.

18. The unique features of public health are:

- (A) Focus on population
- (B) Organised community effort
- (C) Inputs are drawn from different disciplines
- (D) Evidence-based approach

Choose the correct answer from the options given below:

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

Correct Answer: 3. (A), (B), (C) and (D)

Solution: The unique features of public health include:

- **Focus on population:** Public health addresses health issues at the population level rather than the individual level.
- **Organised community effort:** It involves collective efforts by communities and organisations to promote health and prevent diseases.
- **Inputs are drawn from different disciplines:** Public health integrates knowledge and practices from multiple fields such as medicine, sociology, economics, and statistics.
- **Evidence-based approach:** Decisions and strategies in public health are grounded in scientific research and evidence to ensure effective outcomes.

Thus, all the listed features (A, B, C, and D) are integral to public health.



Quick Tip

Public health is distinct from clinical medicine as it focuses on populations, involves multidisciplinary inputs, and relies on evidence-based strategies.

19. AIDS is:

1. Achieved Immuno Deficiency Syndrome
2. Acquired Immuno Deficiency Syndrome
3. Acquired Immuno Disease Syndrome
4. Achieved Immuno Declining Syndrome

Correct Answer: 2. Acquired Immuno Deficiency Syndrome

Solution: AIDS stands for **Acquired Immuno Deficiency Syndrome**, which is a condition caused by the Human Immunodeficiency Virus (HIV). This virus attacks and weakens the immune system, making the body more susceptible to infections and certain types of cancer. The key terms in the full form are:

- **Acquired:** Not inherited; obtained after birth.
- **Immuno:** Relates to the immune system.
- **Deficiency:** Lack of immunity.
- **Syndrome:** A collection of symptoms and signs.

Quick Tip

AIDS is not a single disease but a condition characterized by the weakening of the immune system due to HIV.

20. Arrange the following National Programmes in the chronological order of its launching:



- (A) Revised National Tuberculosis Control Programme
- (B) National Mental Health Programme
- (C) RMNCH+A Programme
- (D) National Programme for Control of Blindness

Choose the correct answer from the options given below:

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

Correct Answer: 1. (D), (B), (A), (C)

Solution: The chronological order of launching the national programmes is as follows:

1. **National Programme for Control of Blindness (D):** Launched in 1976, this programme aims to reduce the prevalence of blindness in India.
2. **National Mental Health Programme (B):** Introduced in 1982, it focuses on the promotion of mental health and prevention of mental illness.
3. **Revised National Tuberculosis Control Programme (A):** Launched in 1997, it aimed at strengthening the existing TB control measures.
4. **RMNCH+A Programme (C):** Started in 2013, this programme addresses Reproductive, Maternal, Newborn, Child, and Adolescent health comprehensively.

Quick Tip

National health programmes are launched to address specific health challenges and improve overall public health outcomes in a systematic way.

21. Which of the following are correct?

- (A) AIDS is a non-communicable disease.
- (B) The first test done to detect AIDS is ELISA test.



(C) Government of India launched National AIDS Control Programme in 1992.

(D) In India, the first HIV case was detected in 1986.

Choose the correct answer from the options given below:

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

Correct Answer: 2. (B), (C) and (D) only.

Solution:

1. (A) is incorrect because AIDS is a communicable disease caused by the Human Immunodeficiency Virus (HIV).
2. (B) is correct as ELISA (Enzyme-Linked Immunosorbent Assay) is the first test done to detect the presence of HIV antibodies.
3. (C) is correct because the Government of India launched the National AIDS Control Programme (NACP) in 1992 to combat the spread of HIV/AIDS.
4. (D) is correct as the first HIV case in India was detected in 1986 in Chennai, Tamil Nadu.

Quick Tip

AIDS is a communicable disease. ELISA is the primary test used for detecting HIV, and the National AIDS Control Programme was initiated in 1992 to combat HIV/AIDS in India.

22.Match List I with List II

LIST I (Author/Expert)

- (A) CEA Winslow
(B) Grotjahn



(C) James Lind

(D) John Snow

LIST II (Book Idea/Concept Proposed)

(I) Social Medicine

(II) A Treatise of the Scurvy

(III) On the Mode of Communication of Cholera

(IV) Definition of Public Health

Choose the correct answer from the options given below:

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

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

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

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

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

Solution:

1. (A) CEA Winslow is associated with the **Definition of Public Health (IV)**. He defined public health as “the science and art of preventing disease, prolonging life, and promoting physical health and efficiency.”
2. (B) Grotjahn is linked to **Social Medicine (I)**. He proposed the integration of social aspects into medicine to understand and address societal impacts on health.
3. (C) James Lind authored **A Treatise of the Scurvy (II)**, where he described scurvy and its prevention, marking a milestone in nutritional epidemiology.
4. (D) John Snow is known for his work **On the Mode of Communication of Cholera (III)**, which laid the foundation for modern epidemiology.

Quick Tip

CEA Winslow is renowned for defining public health, while James Lind and John Snow contributed significantly to nutritional epidemiology and cholera transmission, respectively.



23. The Indian Research Fund Association was later known as:

1. ICMR
2. NIMR
3. All India Institute of Hygiene and Public Health
4. Indian Rural Health Institute

Correct Answer: 1. ICMR

Solution: The Indian Research Fund Association (IRFA), established in 1911, was later renamed as the **Indian Council of Medical Research (ICMR)** in 1949. The ICMR is the apex body in India for the formulation, coordination, and promotion of biomedical research, significantly contributing to public health advancements in the country.

Quick Tip

ICMR is a leading institution in India for biomedical research, evolving from the Indian Research Fund Association to tackle pressing public health challenges.

24. Community diagnosis means:

1. Quantifying and summarising the important health problems and their associated socio-demographic characteristics in a community.
2. Priority-wise listing of the common diseases seen in a community.
3. Summarising the standards of living and lifestyle factors in a community.
4. Identifying diseases prevalent in a community and ranking it as per the community's priorities.

Correct Answer: 1. Quantifying and summarising the important health problems and their associated socio-demographic characteristics in a community.

Solution: Community diagnosis is a process of identifying and quantifying the major health problems and their associated socio-demographic factors within a population. It involves



collecting and analysing data to create a comprehensive picture of the community's health status, which helps in planning and implementing targeted health interventions.

Quick Tip

Community diagnosis focuses on understanding the health challenges in a population to guide public health planning and decision-making effectively.

25. Match List I with List II:

LIST I (Concept/Goal):

- (A) Primary Health Care Approach
- (B) National Health Policy
- (C) Primary Level of Health Care
- (D) Health for All Goal

LIST II (Component/Year):

- (I) Sub centre
- (II) Intersectoral Coordination
- (III) 1978
- (IV) 2017

Options:

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

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



Solution:

1. **Primary Health Care Approach (A):** Linked to **Intersectoral Coordination (II)**, as the approach emphasizes collaboration across various sectors to ensure comprehensive healthcare.
2. **National Health Policy (B):** Associated with the year **2017 (IV)**, as the Government of India launched the updated National Health Policy in 2017.
3. **Primary Level of Health Care (C):** Represented by **Sub-centres (I)**, as they are the foundational units for delivering primary healthcare.
4. **Health for All Goal (D):** Corresponds to the year **1978 (III)**, originating from the Alma Ata Declaration.

Quick Tip

The "Health for All Goal" was declared at the Alma Ata Conference in 1978, highlighting the importance of Primary Health Care.

26. Which of the following statistical test is used for a bivariate analysis when both the variables are categorical?

Options:

1. Unpaired t-test
2. Paired t-test
3. Analysis of Variance (ANOVA)
4. Chi-square test

Correct Answer: 4. Chi-square test

Solution: The Chi-square test is a non-parametric statistical test used for bivariate analysis when both variables are categorical. It examines the association or independence between two categorical variables by comparing the observed and expected frequencies in a contingency table.



Quick Tip

The Chi-square test is ideal for analyzing relationships between two categorical variables, such as gender and preference for a product.

27. Which of the following statistical test is most suited for a continuous variable where data is collected before and after an intervention?

Options:

1. Unpaired t-test
2. Paired t-test
3. Chi-square test
4. Standard deviation

Correct Answer: 2. Paired t-test

Solution: The paired t-test is a statistical test used to compare the means of a continuous variable measured on the same subjects before and after an intervention. This test accounts for the dependency between the two sets of data since the measurements are taken from the same individuals.

Quick Tip

The paired t-test is ideal for analyzing data from repeated measurements, such as pre- and post-intervention studies.

28. Which of the following graph is best suited to show the trend of events with time?

Options:

1. Pie chart
2. Scatter plot



3. Histogram
4. Line diagram

Correct Answer: 4. Line diagram

Solution: A line diagram is the best choice to show the trend of events over time because it allows for the visualization of continuous changes. It connects data points with lines, making it easier to identify patterns or trends in the data over a period.

Quick Tip

Use line diagrams to display trends or patterns over time, as they effectively show progression and fluctuations in data.

29. Quarantine in Public Health includes limitation of freedom of movement of which of the following groups?

Options:

1. Patients currently suffering from infectious disease
2. Patients who have been hospitalised
3. Healthy individuals not exposed to disease
4. Healthy individuals exposed to disease

Correct Answer: 4. Healthy individuals exposed to disease

Solution: Quarantine in public health refers to restricting the movement of healthy individuals who have been exposed to an infectious disease. This measure is taken to prevent the potential spread of the disease during its incubation period, even if the individuals do not show symptoms.

Quick Tip

Quarantine is a preventive measure used for healthy individuals who may have been exposed to a contagious disease to limit its spread.



30. Which of the following is an anti-larval measure for mosquito control?

Options:

1. Space spray
2. Gambusia fish
3. Insecticide impregnated bednets
4. Mosquito repellent creams

Correct Answer: 2. Gambusia fish

Solution: Gambusia fish are small freshwater fish that feed on mosquito larvae, making them an effective anti-larval measure for mosquito control. This biological method is often used to reduce mosquito breeding in stagnant water. Other options, such as space spray and bednets, target adult mosquitoes, while repellent creams prevent bites.

Quick Tip

Anti-larval measures focus on controlling the mosquito population at the larval stage, such as using Gambusia fish in water bodies.

31. Pneumoconiosis is an occupational disease that affects:

Options:

1. Heart
2. Liver
3. Lung
4. Brain

Correct Answer: 3. Lung



Solution: Pneumoconiosis is a lung disease caused by inhaling dust particles, particularly in occupational settings such as mining, construction, or industries where workers are exposed to silica, asbestos, or coal dust. Prolonged exposure leads to scarring and impaired lung function.

Quick Tip

Pneumoconiosis is preventable through proper workplace safety measures, including ventilation systems and protective equipment.

32. Which of the following is a nominal variable?

Options:

1. Blood sugar level
2. Temperature
3. Mother-tongue
4. Cost of a cup of tea

Correct Answer: 3. Mother-tongue

Solution: A nominal variable is a categorical variable that has no intrinsic ordering or rank. "Mother-tongue" represents a category (e.g., English, Hindi, French) without any quantitative value or natural order. In contrast, variables like blood sugar level, temperature, and cost of a cup of tea are continuous or ordinal in nature.

Quick Tip

Nominal variables categorize data without any rank or numeric value, such as language, gender, or religion.

33. The timeline to achieve WHO goal of 'Health for All' was set for the year:

Options:



1. 1948
2. 2000
3. 2015
4. 2030

Correct Answer: 2. 2000

Solution: The World Health Organization (WHO) set the goal of achieving "Health for All" by the year 2000 during the Alma Ata Declaration in 1978. This initiative focused on primary health care as the key to attaining acceptable levels of health for all people around the globe.

Quick Tip

The "Health for All by 2000" initiative emphasized primary health care as the foundation for achieving global health equity.

34. The first international conference on health promotion, which resulted in the proclamation of a Charter for Health Promotion, was held in 1986 at:

Options:

1. Alma Ata
2. Geneva
3. Jakarta
4. Ottawa

Correct Answer: 4. Ottawa

Solution: The first International Conference on Health Promotion was held in Ottawa, Canada, in 1986. It resulted in the Ottawa Charter for Health Promotion, which emphasized the importance of enabling people to increase control over their health and its determinants. The charter outlined key action areas like building healthy public policy, creating supportive environments, and strengthening community action.



Quick Tip

The Ottawa Charter for Health Promotion (1986) is a landmark document that shifted global health strategies toward prevention and health promotion.

35.Noise pollution is measured in units of:

Options:

1. Lux
2. Decibels
3. Candella
4. mg/L

Correct Answer: 2. Decibels

Solution: Noise pollution is quantified using decibels (dB), which is a logarithmic unit that measures the intensity of sound. The threshold of hearing for humans is 0 dB, while levels above 85 dB are generally considered harmful to human health if exposure is prolonged.

Quick Tip

Noise levels are measured in decibels (dB). Continuous exposure to noise above 85 dB can cause hearing damage.

36. What is the range in the following dataset? 42.50, 44, 38, 35.45

Options:

1. 42 to 45
2. 35 to 50
3. 42 to 44
4. 42 to 33



Correct Answer: 2. 35 to 50

Solution: The range of a dataset is calculated as the difference between the maximum and minimum values in the dataset.

Maximum value: 44, Minimum value: 35.45

Range: 35.45 to 44 The closest option that includes this range is 35 to 50.

Quick Tip

To calculate the range of a dataset, subtract the smallest value from the largest value.

37. What is the mode in the following dataset? 35, 44, 33, 35, 37, 44, 37, 35

Options:

1. 37.5
2. 36
3. 37
4. 35

Correct Answer: 4. 35

Solution: The mode of a dataset is the value that appears most frequently. Analyzing the given dataset:

35, 44, 33, 35, 37, 44, 37, 35

The frequency of each value is:

- 35: 3 times
- 44: 2 times
- 33: 1 time
- 37: 2 times

Since 35 appears the most (3 times), the mode is 35.



Quick Tip

The mode is the value that occurs most frequently in a dataset.

38. Arrange the following global health initiatives from the oldest to most recent one:

1. Sustainable Development Goals
2. Primary Health Care
3. Millennium Development Goals
4. Health for All

Options:

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

Correct Answer: 4. (D), (B), (C), (A)

Solution: To arrange the global health initiatives in chronological order:

1. **Health for All:** Introduced in 1978 through the Alma Ata Declaration.
2. **Primary Health Care:** Proposed as the strategy to achieve "Health for All" in 1978.
3. **Millennium Development Goals:** Adopted in 2000 with a global focus on health and development.
4. **Sustainable Development Goals:** Launched in 2015 to replace the Millennium Development Goals and expand global health targets.

Hence, the correct order is (D), (B), (C), (A).



Quick Tip

The Alma Ata Declaration of 1978 marked the introduction of "Health for All" and Primary Health Care, followed by the MDGs in 2000 and SDGs in 2015.

39. The stages in life history of mosquito are listed. Arrange them in order:

1. Adult
2. Egg
3. Pupa
4. Larva

Options:

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

Correct Answer: 3. (B), (D), (C), (A)

Solution: The mosquito life cycle includes the following stages in order:

1. **Egg:** Mosquitoes lay eggs on the surface of water.
2. **Larva:** The eggs hatch into larvae, which live in water and feed on microorganisms.
3. **Pupa:** Larvae develop into pupae, which are a transitional stage before becoming adults.
4. **Adult:** Pupae transform into adult mosquitoes, completing the life cycle.

Thus, the correct sequence is (B), (D), (C), (A).

Quick Tip

The mosquito life cycle involves four main stages: egg, larva, pupa, and adult. All stages except the adult occur in water.



40. Following are some of the basic steps in conducting a Randomised Controlled Trial (RCT). Arrange them in order:

1. Randomisation
2. Drawing up a protocol
3. Intervention or manipulation
4. Assessment of outcome

Options:

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

Correct Answer: 4. (B), (A), (C), (D)

Solution: The steps involved in conducting a Randomised Controlled Trial (RCT) are:

1. **Drawing up a protocol:** This is the first step where the objectives, methodology, and plan for the trial are outlined.
2. **Randomisation:** Participants are randomly assigned to different intervention groups to eliminate selection bias.
3. **Intervention or manipulation:** The intervention being studied is applied to the relevant group(s).
4. **Assessment of outcome:** The results of the intervention are measured to determine its effectiveness.

Thus, the correct sequence is (B), (A), (C), (D).



Quick Tip

Randomised Controlled Trials (RCTs) are gold standard experiments in research. Key steps include designing the protocol, randomisation, applying interventions, and assessing outcomes.

41. Diastolic blood pressure readings of four patients are given below. Arrange them according to increasing median diastolic blood pressure (least median first):

1. 83, 71, 81, 79, 71
2. 90, 83, 75, 90, 89
3. 70, 72, 87, 75, 87
4. 75, 84, 81, 95, 95

Options:

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

Correct Answer: 2. (C), (A), (D), (B)

Solution: To determine the median diastolic blood pressure for each patient, arrange the values in ascending order:

1. (A): 71, 71, 79, 81, 83
Median = 79
2. (B): 75, 83, 89, 90, 90
Median = 89
3. (C): 70, 72, 75, 87, 87
Median = 75



4. (D): 75, 81, 84, 95, 95

Median = 84

Arranging in increasing order of median: (C) (75), (A) (79), (D) (84), (B) (89). Thus, the correct sequence is **(C), (A), (D), (B)**.

Quick Tip

The median is the middle value in a dataset when arranged in ascending order. For an odd number of values, it is the central number; for an even number, it is the average of the two middle values.

42. Which of the following are probability sampling methods?

1. Simple random sampling
2. Systematic random sampling
3. Stratified random sampling
4. Purposive sampling

Options:

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

Correct Answer: 2. (A), (B) and (C) only.

Solution: Probability sampling methods are those in which each unit in the population has a known and non-zero chance of being selected. These include:

- **Simple random sampling:** Every individual has an equal probability of being chosen.
- **Systematic random sampling:** Selection occurs at regular intervals from a list.



- **Stratified random sampling:** The population is divided into subgroups (strata), and random samples are taken from each stratum.

Purposive sampling is a non-probability sampling method where participants are selected based on specific characteristics or judgment, not randomization.

Thus, the correct answer is **(A), (B), and (C) only**.

Quick Tip

Probability sampling ensures randomization and reduces selection bias, making it ideal for statistical generalizations.

43. Which of the following studies are observational?

1. Case-control study
2. Cohort study
3. Randomised Controlled Trial
4. Non-randomised Trial

Options:

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

Correct Answer: 3. (A) and (B) only.

Solution: Observational studies are those where the researcher does not intervene but simply observes and analyzes data.

- **Case-control study:** A retrospective study comparing individuals with a specific condition (cases) to those without it (controls).



- **Cohort study:** A longitudinal study observing a group (cohort) over time to assess the development of outcomes based on exposures.
- **Randomised Controlled Trial (RCT):** This is an interventional study where participants are randomly assigned to groups.
- **Non-randomised Trial:** Though it lacks randomization, it involves intervention, making it non-observational.

Thus, the correct answer is **(A) and (B) only**.

Quick Tip

Observational studies are ideal for exploring associations where intervention is not feasible or ethical.

44. Which of the following are measures of variation (dispersion)?

1. Mean
2. Standard deviation
3. Range
4. Mean deviation

Options:

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

Correct Answer: 4. (B), (C) and (D) only.

Solution: Measures of variation or dispersion describe the spread or variability in a dataset.

The following are considered measures of dispersion:



- **Standard deviation:** Quantifies the amount of variation or dispersion in a dataset.
- **Range:** The difference between the maximum and minimum values in a dataset.
- **Mean deviation:** The average of the absolute deviations of data points from the mean.

Mean is a measure of central tendency, not dispersion. Therefore, the correct answer includes only options **(B)**, **(C)**, and **(D)**.

Quick Tip

Measures of dispersion help understand the variability in data and complement measures of central tendency like the mean.

45. Which of the following are occupational diseases?

1. Silicosis
2. Sickle cell anaemia
3. Byssinosis
4. Thalassemia

Options:

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

Correct Answer: 2. (A) and (C) only.

Solution: Occupational diseases are illnesses that arise due to exposure to risk factors or harmful conditions in the workplace environment. The following are occupational diseases:

- **Silicosis:** Caused by inhaling silica dust, commonly found in mining, quarrying, and construction industries.



- **Byssinosis:** Caused by inhaling cotton, flax, or hemp dust, often affecting workers in the textile industry.

Sickle cell anaemia and **thalassemia** are genetic disorders and not related to occupational exposures. Hence, the correct answer includes only (A) and (C).

Quick Tip

Occupational diseases are directly linked to workplace conditions, while genetic disorders are inherited and not environment-related.

46. Which of the following sources include data collection at the household level?

1. Census
2. National Family Health Survey
3. Hospital records
4. National Sample Survey

Options:

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

Correct Answer: 1. (A), (B) and (D) only.

Solution: The following sources include data collection at the household level:

- **Census:** It collects detailed demographic, social, and economic data at the household level.
- **National Family Health Survey (NFHS):** It collects household-level data on health, nutrition, family planning, and other indicators.



- **National Sample Survey (NSS):** It collects socio-economic data at the household level on topics such as employment, expenditure, and education.

Hospital records, on the other hand, pertain to individual patients and are not collected at the household level. Therefore, the correct answer is **(A), (B), and (D)** only.

Quick Tip

Household-level data is collected by surveys and census operations, while hospital records are specific to patient care.

47. Match List I with List II:

List I (Exposure)	List II (Disease)
A. Cotton dust	1. Byssinosis
B. Asbestos	II. Silicosis
C. Silica	III. Asbestosis
D. Hay or grain dust	IV. Farmer's lung

Choose the correct answer from the options given below:

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

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

Solution: The correct matches are:

- **A. Cotton dust:** Associated with **Byssinosis**, a respiratory condition caused by prolonged exposure to cotton dust.
- **B. Asbestos:** Causes **Asbestosis**, a chronic lung condition resulting from inhaling asbestos fibers.



- **C. Silica:** Leads to **Silicosis**, a lung disease caused by inhaling crystalline silica particles.
- **D. Hay or grain dust:** Results in **Farmer's lung**, a hypersensitivity pneumonitis caused by exposure to organic dust.

Thus, the correct sequence is: (A) - (I), (B) - (III), (C) - (II), (D) - (IV).

Quick Tip

Occupational lung diseases are caused by exposure to specific environmental hazards such as dust or fibers during work. Knowing these exposures helps in early diagnosis and prevention.

48. Match List I with List II:

List I (Indicator)	List II (Denominator)
A. Specific death rate due to tuberculosis	I. Total number of COVID-19 cases
B. Specific death rate for males	II. Mid-year population
C. Case fatality rate for COVID-19	III. Mid-year population of males
D. Specific death rate in age group 15-19 years	IV. Mid-year population of persons aged 15-19

Choose the correct answer from the options given below:

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

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

Solution: The correct matches are:

- **A. Specific death rate due to tuberculosis:** Denominator is **Mid-year population** as it measures deaths due to tuberculosis in the general population.



- **B. Specific death rate for males:** Denominator is **Mid-year population of males**, focusing on male-specific death rates.
- **C. Case fatality rate for COVID-19:** Denominator is **Total number of COVID-19 cases**, as it measures deaths among confirmed cases.
- **D. Specific death rate in age group 15-19 years:** Denominator is **Mid-year population of persons aged 15-19**, as it assesses deaths in this specific age group.

Thus, the correct sequence is: (A) - (II), (B) - (III), (C) - (I), (D) - (IV).

Quick Tip

Specific death rates focus on particular groups (age, gender, disease), and the denominator should reflect the relevant population subset.

49. Match List I with List II:

List I (Study design)	List II (Analytical outcome)
A. Case-control study	I. Relative risk
B. Cohort study	II. Time, place, and person distribution
C. Cross-sectional study	III. Odds ratio
D. Descriptive study	IV. Prevalence

Choose the correct answer from the options given below:

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

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

Solution: The correct matches are:



- **A. Case-control study:** The outcome is **Time, place, and person distribution**, focusing on identifying associations in specific settings.
- **B. Cohort study:** The outcome is **Prevalence**, assessing the frequency of a condition over a given time.
- **C. Cross-sectional study:** The outcome is **Relative risk**, estimating the likelihood of disease presence in relation to exposure.
- **D. Descriptive study:** The outcome is **Odds ratio**, measuring associations between risk factors and outcomes descriptively.

Thus, the correct sequence is: (A) - (II), (B) - (IV), (C) - (I), (D) - (III).

Quick Tip

Matching study designs with their analytical outcomes is essential for understanding how each design evaluates specific epidemiological measures.

50. Match List I with List II:

List I (Screening test outcome):

- A. True-positive
- B. True-negative
- C. False-positive
- D. False-negative

List II (Meaning):

- I. Person has disease and screening test result is positive
- II. Person does not have disease and screening test result is negative
- III. Person does not have disease and screening test result is positive
- IV. Person has disease and screening test result is negative



Choose the correct answer from the options given below:

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

Correct Answer: 3. (A) - (IV), (B) - (II), (C) - (I), (D) - (III)

Solution: The correct matches are:

- **A. True-positive: Person has disease and screening test result is positive (IV).** This indicates the test correctly identifies those with the disease.
- **B. True-negative: Person does not have disease and screening test result is negative (II).** This indicates the test correctly identifies those without the disease.
- **C. False-positive: Person does not have disease and screening test result is positive (I).** This occurs when the test wrongly identifies a person as having the disease.
- **D. False-negative: Person has disease and screening test result is negative (III).** This occurs when the test wrongly identifies a person as disease-free.

Thus, the correct sequence is: (A) - (IV), (B) - (II), (C) - (I), (D) - (III).

Quick Tip

Understanding screening test outcomes is crucial for evaluating the accuracy and reliability of diagnostic tools in public health and medicine.

51.Match List I with List II:



List I (Blood Alcohol Level %)	List II (Effects on Brain)
A. 0.02	I. Poor muscle coordination and impaired self-control
B. 0.08	II. Loss of judgment, altered mood
C. 0.20	III. Confusion, disorientation
D. 0.40	IV. Lethal dose

Choose the correct answer from the options given below:

- (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
- (A) - (III), (B) - (I), (C) - (II), (D) - (IV)
- (A) - (III), (B) - (II), (C) - (I), (D) - (IV)

Correct Answer: 3. (A) - (III), (B) - (I), (C) - (II), (D) - (IV)

Solution: The correct matches are:

- **A. 0.02: Confusion, disorientation (III).** At this level, initial effects on cognitive function such as confusion start to appear.
- **B. 0.08: Poor muscle coordination and impaired self-control (I).** This level is commonly associated with legal impairment limits for driving.
- **C. 0.20: Loss of judgment, altered mood (II).** Higher alcohol levels affect emotional regulation and decision-making.
- **D. 0.40: Lethal dose (IV).** At this level, alcohol poisoning occurs, which can lead to death.

Thus, the correct sequence is: (A) - (III), (B) - (I), (C) - (II), (D) - (IV).

Quick Tip

Blood alcohol levels significantly impact brain function, ranging from mild impairment to life-threatening conditions.



52. Match List I with List II:

List I (Dietary Reference Intake):

- A. Recommended Dietary Allowances
- B. Chronic Disease Risk Reduction Intakes
- C. Tolerable Upper Intake
- D. Acceptable Macronutrient Distribution Ranges

List II (Purpose):

- I. The highest average daily nutrient intake levels that are likely to pose no risk of toxicity to almost all healthy individuals of a particular population group.
- II. Ranges of intakes set for the energy-yielding nutrients that are sufficient to provide adequate total energy and nutrients while minimizing the risk of chronic diseases.
- III. The average daily nutrient intake level that meets the needs of nearly all (97 to 98 percent) healthy people in a particular sex and life stage group.
- IV. Levels of nutrient intake associated with low risks of chronic diseases.

Choose the correct answer from the options given below:

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

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

Solution: The correct matches are:

- **A. Recommended Dietary Allowances: (III).** These represent the average daily nutrient intake levels sufficient to meet the needs of nearly all (97–98 percent) healthy people in a particular sex and life stage group.
- **B. Chronic Disease Risk Reduction Intakes: (IV).** These levels aim to reduce the risks of chronic diseases in populations.



- **C. Tolerable Upper Intake: (I).** The highest level of daily nutrient intake that is likely to pose no risk of adverse health effects.
- **D. Acceptable Macronutrient Distribution Ranges: (II).** These are ranges of intakes for energy-yielding nutrients, balancing total energy and minimizing chronic disease risk.

Thus, the correct sequence is: (A) - (III), (B) - (IV), (C) - (I), (D) - (II).

Quick Tip

Dietary Reference Intakes are used to guide nutrient intake to maintain health and reduce chronic disease risks.

54. A day's meals provide 50 grams of protein. Calculate the calories contributed by protein.

- (A) Falciparum malaria
- (B) Vivax malaria
- (C) Quartan malaria
- (D) Ovale malaria

Options:

1. 200
2. 350
3. 250
4. 300

Correct Answer: 1. 200

Solution:

- Each gram of protein provides **4 calories**.



- Therefore, the total calories contributed by 50 grams of protein is calculated as:

$$\text{Calories} = 50 \times 4 = 200 \text{ calories.}$$

- Thus, the correct answer is **200 calories**.

Quick Tip

Protein provides 4 calories per gram, while carbohydrates also provide 4 calories per gram, and fats provide 9 calories per gram.

55. Following is true of Yellow Fever Vaccine:

- (A) Live attenuated, lyophilized (freeze dried) vaccine.
- (B) Has 17D strain.
- (C) After reconstitution must be used within 6 hours.
- (D) Validity of Vaccination Certificate after 10 days.

Options:

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

Correct Answer: 1. (A), (B) and (D) only.

Solution:

- The Yellow Fever vaccine is a **live attenuated, lyophilized (freeze-dried)** vaccine, which means it is weakened and freeze-dried for preservation.
- The vaccine uses the **17D strain**, which is highly effective and widely used.
- After reconstitution, the vaccine must be used immediately; while it can be used within 6 hours, this is not a universally true guideline.



- A vaccination certificate is valid after 10 days of receiving the vaccine, as per international travel requirements.

Quick Tip

Yellow Fever vaccination provides long-lasting immunity and is essential for travel to certain endemic regions. Always check the vaccination certificate requirements before travel.

56. Match List I with List II

LIST I (Disease)

- (A) Pertussis
- (B) Measles
- (C) Mumps
- (D) Rubella

LIST II (Herd immunity threshold)

- (I) 92-94%
- (II) 75-86%
- (III) 83-94%
- (IV) 80-85%

Choose the correct answer from the options given below:

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

Correct Answer: 3. (A)-(I), (B)-(II), (C)-(IV), (D)-(III)

Solution:

- Pertussis has a herd immunity threshold of **92-94%**.



- Measles has a herd immunity threshold of **75-86%**.
- Mumps has a herd immunity threshold of **80-85%**.
- Rubella has a herd immunity threshold of **83-94%**.

Quick Tip

Herd immunity thresholds vary by disease and are critical for preventing outbreaks. Vaccination programs aim to reach these thresholds to protect the community.

57. Match List I with List II

LIST I (Vaccine)

- (A) BCG
- (B) Measles vaccine
- (C) Mumps vaccine
- (D) Varicella vaccine

LIST II (Strain(s))

- (I) Jeryll Lynn strain
- (II) OKA strain
- (III) Danish-1331 strain
- (IV) Edmonston Zagreb strain

Choose the correct answer from the options given below:

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

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

Solution:



- **BCG Vaccine:** Uses the **Danish-1331 strain**.
- **Measles Vaccine:** Uses the **Edmonston Zagreb strain**.
- **Mumps Vaccine:** Uses the **Jeryll Lynn strain**.
- **Varicella Vaccine:** Uses the **OKA strain**.

Quick Tip

Understanding vaccine strains is essential for effective immunization strategies and combating specific diseases globally.

58. Reference Interval for Sperm characteristics in semen associated with fertility are:

- (A) 14% or more have normal morphology
- (B) 75% or more are alive
- (C) 10×10^6 sperm per mL
- (D) 50% or more with moderate to rapid linear (forward) progression

Choose the correct answer from the options given below:

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

Correct Answer: 1. (A), (B) and (D) only.

Solution:

- **14% or more have normal morphology:** This indicates a healthy sperm morphology, critical for fertility.
- **75% or more are alive:** High viability ensures functional sperm capable of fertilization.
- **50% or more with moderate to rapid linear progression:** Forward motility is essential for reaching and fertilizing the egg.



- Option (C) is not included as the standard threshold for sperm concentration is higher than 10×10^6 sperm/mL.

Quick Tip

Sperm viability, morphology, and motility are crucial parameters in determining male fertility. Reference intervals help assess reproductive health.

59. When viewing a focused specimen in the microscope, the user sees a speck in the field of view. The speck remains in view when the objective is changed and when the specimen is moved. The speck is most likely located on the:

- (A) Condenser
- (B) Eyepiece
- (C) Objective
- (D) Specimen coverslip

Choose the correct answer from the options given below:

1. Condenser
2. Eyepiece
3. Objective
4. Specimen coverslip

Correct Answer: 2. Eyepiece

Solution: If the speck remains visible regardless of changes in the objective or specimen movement, it indicates that the speck is located on the eyepiece. This is because the eyepiece remains constant in the optical path and does not change as the objectives or specimen are adjusted.

Quick Tip

To confirm the location of the speck, rotate the eyepiece. If the speck moves with it, it is indeed on the eyepiece.



60. Which type of microscopy is able to produce three-dimensional images and perform optical sectioning?

- (A) Brightfield
- (B) Interference contrast
- (C) Phase-contrast
- (D) Polarizing

Choose the correct answer from the options given below:

1. Brightfield
2. Interference contrast
3. Phase-contrast
4. Polarizing

Correct Answer: 2. Interference contrast

Solution: Interference contrast microscopy, such as Differential Interference Contrast (DIC), is capable of producing three-dimensional images and performing optical sectioning. This technique enhances contrast in transparent specimens and provides a pseudo-3D appearance by exploiting differences in the optical path length.

Quick Tip

Interference contrast microscopy is especially useful for examining live, unstained cells to highlight their structural details.

61. The principle of fluorescence microscopy is based on:

1. A substance that causes the rotation of polarised light
2. Differences in the optical light path being converted to intensity differences
3. Differences in refractive index being converted into variations in light intensity



4. The absorption of light and its subsequent emission at a longer wavelength

Correct Answer: 4. The absorption of light and its subsequent emission at a longer wavelength

Solution: Fluorescence microscopy is based on the principle that certain substances absorb light (usually ultraviolet or blue light) at one wavelength and then emit it at a longer wavelength (visible light). This property of fluorescence allows specific structures or molecules in a specimen to be tagged with fluorescent dyes, enabling detailed visualization.

Quick Tip

Fluorescence microscopy is widely used in biological sciences to study specific structures like proteins, DNA, or organelles by tagging them with fluorescent markers.

62. Which type of microscopy uses a special condenser to direct light onto the specimen from oblique angles only?

- (A) Darkfield
- (B) Interference contrast
- (C) Phase-contrast
- (D) Polarizing

Choose the correct answer from the options given below:

1. Darkfield
2. Interference contrast
3. Phase-contrast
4. Polarizing

Correct Answer: 1. Darkfield

Solution: Darkfield microscopy employs a special condenser that directs light onto the specimen at oblique angles. This setup causes light to scatter when it hits the specimen, making bright objects appear against a dark background. It is particularly useful for observing transparent or unstained specimens like live microorganisms.



Quick Tip

Darkfield microscopy enhances contrast in specimens that are otherwise difficult to visualize, such as living cells or thin structures like spirochetes.

63. Which of the following diluents should be used when an RBC count is requested?

- (A) Dilute acetic acid
- (B) Hypotonic saline
- (C) Isotonic saline
- (D) Turk's solution

Choose the correct answer from the options given below:

1. Dilute acetic acid
2. Hypotonic saline
3. Isotonic saline
4. Turk's solution

Correct Answer: 3. Isotonic saline

Solution: Isotonic saline (0.85% NaCl) is used as a diluent for RBC counts because it maintains the integrity of the red blood cells, preventing hemolysis. Other diluents, such as dilute acetic acid or Turk's solution, are used for WBC counts as they lyse red blood cells to better visualize white blood cells.

Quick Tip

Always use isotonic saline for RBC counts to preserve cell structure and ensure accurate results.

64. VVM (Vaccine Vial Monitor) is used to monitor effectiveness of the cold chain.

Which of the following is an indication NOT to discard the vaccine?



- (A) Inner square is white.
- (B) Inner square is lighter than outer circle.
- (C) Inner square is darker than the outer circle.
- (D) Outer circle is more dark than inner square.

Choose the correct answer from the options given below:

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

Correct Answer: 1. (A), (B) and (D) only.

Solution:

The Vaccine Vial Monitor (VVM) is a label containing a heat-sensitive material that helps determine if a vaccine has been exposed to conditions that render it ineffective. The vaccine is safe to use under the following conditions:

- The inner square remains white.
- The inner square is lighter than the outer circle.
- The outer circle is more dark than the inner square.

If the inner square becomes darker than the outer circle, the vaccine should be discarded.

Quick Tip

Always check the VVM for color contrast before using a vaccine. If the inner square is darker than the outer circle, discard the vial.

65. Which of the following conditions can result in the excretion of small amounts of occult blood in the faeces?



- (A) Hemorrhoids
- (B) Bleeding gums
- (C) Peptic ulcers
- (D) Intake of iron supplements

Choose the correct answer from the options given below:

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

Correct Answer: 2. (A), (B) and (C) only.

Solution:

The following conditions can lead to the presence of small amounts of occult blood in the faeces:

- **Hemorrhoids:** Swollen veins in the rectal area can bleed and cause occult blood in the stool.
- **Bleeding gums:** Blood swallowed from bleeding gums can appear in the stool as occult blood.
- **Peptic ulcers:** Ulcers in the stomach or small intestine may cause minor bleeding, resulting in occult blood.

However, iron supplements do not directly cause occult blood in faeces but can make the stool dark, which is often mistaken for blood.

Quick Tip

Occult blood in stool can indicate bleeding anywhere in the gastrointestinal tract. Common sources include ulcers, hemorrhoids, and swallowed blood from gums.



66. As per National Immunization Schedule (NIS) of India, arrange the following vaccines to be administered from birth to ten years of age:

- (A) DPT
- (B) BCG
- (C) TT
- (D) Measles

Choose the correct answer from the options given below:

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

Correct Answer: 3. (B), (A), (D), (C)

Solution:

The National Immunization Schedule (NIS) of India recommends vaccines in the following order for children from birth to 10 years:

1. **BCG:** Administered at birth to protect against tuberculosis.
2. **DPT:** Given at 6, 10, and 14 weeks to protect against diphtheria, pertussis, and tetanus.
3. **Measles:** Administered at 9–12 months to prevent measles.
4. **TT (Tetanus Toxoid):** Given at school entry (5–6 years) and again at 10 years.

This sequence ensures timely protection against major diseases as per age-specific risk.

Quick Tip

The National Immunization Schedule (NIS) of India is designed to protect children from preventable diseases at the earliest possible age.



67. Arrange the following vaccines as per expected frequency of possible minor adverse reactions in increasing order:

- (A) BCG
- (B) DPT
- (C) Oral Polio Vaccine
- (D) Hemophilus influenza B

Choose the correct answer from the options given below:

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

Correct Answer: 4. (C), (D), (B), (A)

Solution:

The order of vaccines as per the increasing frequency of possible minor adverse reactions:

1. **Oral Polio Vaccine (OPV):** Has the least frequency of minor adverse reactions.
2. **Hemophilus influenza B (HiB):** Rarely causes minor reactions.
3. **DPT:** Can cause mild fever, redness, and swelling at the injection site.
4. **BCG:** Commonly causes a small swelling or ulcer at the injection site.

This ranking reflects the increasing likelihood of minor adverse reactions associated with each vaccine.

Quick Tip

Minor adverse reactions to vaccines are generally mild and self-limiting, emphasizing the importance of vaccines in preventing serious diseases.

68. Open vial policy is NOT applied to which vaccine?



Options:

1. Hepatitis B
2. Liquid pentavalent vaccine
3. BCG vaccine
4. OPV vaccine

Correct Answer: 3. BCG vaccine

Solution:

The open vial policy allows the use of certain vaccines in multiple sessions within a specified time period if the vial is handled under appropriate cold chain conditions. However, it does not apply to vaccines like **BCG**, as it is a freeze-dried (lyophilized) vaccine and must be discarded within 4–6 hours after reconstitution to prevent contamination and maintain efficacy.

Quick Tip

The open vial policy is applicable only to vaccines that can remain stable and sterile over multiple sessions, such as Hepatitis B and OPV.

69. Arrange the following causative organisms for food poisoning with increasing order of incubation period:

Options:

1. (A) Staphylococcal
2. (B) Salmonella
3. (C) *Cl. perfringens*
4. (D) Botulism

Choose the correct answer from the options given below:

1. (A), (B), (C), (D)



2. (A), (C), (B), (D)
3. (B), (A), (D), (C)
4. (C), (B), (D), (A)

Correct Answer: 2. (A), (C), (B), (D)

Solution:

The incubation periods for the causative organisms of food poisoning are as follows:

- **Staphylococcal food poisoning:** 1–6 hours (shortest)
- ***Cl. perfringens*:** 8–16 hours
- **Salmonella:** 12–72 hours
- **Botulism:** 18–36 hours (longest)

Hence, the correct order of increasing incubation period is: **(A), (C), (B), (D)**.

Quick Tip

Incubation period refers to the time between exposure to a causative organism and the onset of symptoms. Knowing these helps in identifying the likely causative agent in foodborne outbreaks.

70.Match List I with List II:

LIST I (WHO Diagnostic Criteria):

- (A) Fasting plasma glucose in diabetic patient
- (B) Fasting plasma glucose in Impaired Glucose Tolerance
- (C) 2-hour plasma glucose in Impaired Glucose Tolerance
- (D) Fasting Glucose

LIST II (Blood Glucose Levels):

- (I) Less than 126 mg/dL



- (II) More than 126 mg/dL
- (III) Less than 140 mg/dL
- (IV) 140–200 mg/dL

Choose the correct answer from the options given below:

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

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

Solution:

Based on the WHO diagnostic criteria:

- **Fasting plasma glucose in diabetic patient:** More than 126 mg/dL (II)
- **Fasting plasma glucose in Impaired Glucose Tolerance:** Less than 126 mg/dL (I)
- **2-hour plasma glucose in Impaired Glucose Tolerance:** 140–200 mg/dL (IV)
- **Fasting Glucose:** Less than 140 mg/dL (III)

Hence, the correct matching is (A) - (II), (B) - (I), (C) - (IV), (D) - (III).

Quick Tip

WHO diagnostic criteria help differentiate between diabetes, impaired glucose tolerance, and normal glucose levels based on fasting and postprandial blood glucose values.

71. Indicators for obesity include all, EXCEPT:

1. Body Mass Index
2. Ponderal Index



3. Brocca Index
4. Breteau Index

Correct Answer: 4. Breteau Index

Solution:

Indicators for obesity include:

- **Body Mass Index (BMI):** A widely used measure for obesity, calculated as weight (kg) divided by height (m²).
- **Ponderal Index:** Similar to BMI but used more often in pediatric populations.
- **Brocca Index:** A simple anthropometric measure, used as a guideline for ideal body weight based on height.

Breteau Index, however, is unrelated to obesity. It is an indicator used in entomology to measure the density of mosquito larvae and assess vector control efforts.

Quick Tip

Remember, the Breteau Index is an entomological indicator, not related to human body composition or obesity assessment.

72. Average number of hookworm eggs per gram of faeces for the entire community is called as:

1. Chandler's Index
2. Breteau Index
3. House Index
4. Burrow Index

Correct Answer: 1. Chandler's Index



Solution:

Chandler's Index: This is a measure used in parasitology to estimate the intensity of hookworm infection within a community. It represents the average number of hookworm eggs per gram of faeces, providing a quantitative indication of the prevalence and intensity of the infection.

Other options:

- **Breteau Index:** An entomological index used to measure the density of mosquito larvae.
- **House Index:** Percentage of houses infested with larvae or pupae of mosquitoes.
- **Burrow Index:** Not a standard index related to parasitology or entomology.

Quick Tip

Chandler's Index is specific to estimating hookworm egg intensity in community faecal samples.

73. Nikshay portal is used in which health programme?

1. Tuberculosis
2. AIDS
3. Leprosy
4. Malaria

Correct Answer: 1. Tuberculosis

Solution:

The **Nikshay portal** is a digital initiative launched by the Government of India under the National Tuberculosis Elimination Programme (NTEP). It facilitates the monitoring and management of tuberculosis (TB) cases in the country by tracking patient data, treatment adherence, and outcomes. This portal ensures efficient reporting and supports the goal of eliminating TB by 2025.

Other options:



- **AIDS:** Managed under the National AIDS Control Programme, not linked with the Nikshay portal.
- **Leprosy:** Covered under the National Leprosy Eradication Programme, unrelated to Nikshay.
- **Malaria:** Addressed through the National Vector Borne Disease Control Programme.

Quick Tip

The Nikshay portal is essential for tracking and eliminating TB, supporting the Government of India's ambitious goal of TB eradication by 2025.

74. *Aedes aegypti* is vector for all diseases, EXCEPT:

1. Dengue
2. Chikungunya
3. Yellow Fever
4. Japanese Encephalitis

Correct Answer: 4. Japanese Encephalitis

Solution:

The *Aedes aegypti* mosquito is the primary vector for several diseases, including:

- **Dengue:** *Aedes aegypti* transmits the dengue virus, leading to outbreaks in tropical and subtropical regions.
- **Chikungunya:** This vector spreads the chikungunya virus, causing fever and joint pain.
- **Yellow Fever:** The mosquito also transmits the yellow fever virus in endemic areas.

However, **Japanese Encephalitis** is caused by the **Culex mosquito**, not *Aedes aegypti*. This disease primarily affects regions with stagnant water bodies, where *Culex* mosquitoes thrive.



Quick Tip

Aedes aegypti is responsible for diseases like dengue, chikungunya, and yellow fever, but Japanese Encephalitis is transmitted by *Culex* mosquitoes.

75.Haddon's matrix is used for:

1. Blindness
2. Hypertension
3. Accidents
4. Chronic Kidney Disease

Correct Answer: 3. Accidents

Solution:

Haddon's Matrix is a framework developed by Dr. William Haddon Jr. to analyze and prevent **accidents and injuries**. It is widely used in public health and safety to evaluate:

- **Pre-event phase:** Factors that can prevent an accident from occurring.
- **Event phase:** Measures to reduce the impact during the accident.
- **Post-event phase:** Strategies to minimize injury or damage after the event.

The matrix integrates elements such as human behavior, vehicles or equipment, and the environment to systematically address accident prevention and control.

Quick Tip

Haddon's Matrix is specifically designed for injury prevention and accident analysis by addressing pre-event, event, and post-event factors.

