

INI CET Community Medicine

Sample Paper – 10

Duration: 14 Minutes

Maximum Marks: 15

Instructions

- This paper contains **15** Multiple Choice Questions (Single Best Response), modelled on the Community Medicine (Preventive and Social Medicine) content of **INI CET** (Institutes of National Importance Combined Entrance Test) conducted by AIIMS New Delhi.
- The **15-question** length matches the number of Community Medicine items you actually meet in the real 200-question paper.
- Each correct answer carries **+1 mark**. There is **negative marking of one-third (0.33) mark** for every incorrect answer; unattempted questions carry no penalty.
- Every question has **exactly one best answer**. Choose the single most appropriate option.
- Attempt this practice paper in one timed sitting of about **14 minutes**, the pace the real computer-based test demands.

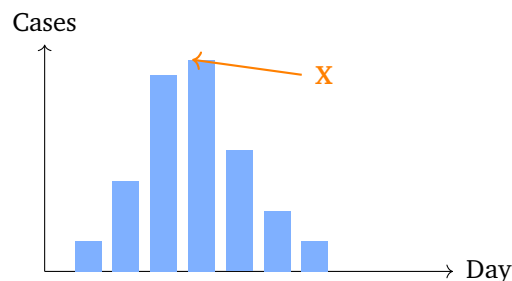
Epidemiology and Biostatistics

- Q1.** The basic reproduction number (R_0) of an infectious disease is best defined as the:
- (A) Number of persons already immune in a population
 - (B) Average number of secondary cases produced by one infected person in a fully susceptible population
 - (C) Proportion of exposed persons who develop clinical disease
 - (D) Time interval between exposure and appearance of symptoms
- Q2.** During a food-poisoning outbreak at a wedding, 120 of the 400 guests who ate the meal fell ill. The **attack rate** is calculated as:



- (A) Number of deaths divided by number of cases, times 100
- (B) Number of new cases divided by mid-year population, times 1000
- (C) Number of existing cases divided by total population at a point in time
- (D) Number of new cases divided by the population at risk during the period, times 100

Q3. The epidemic curve below (marked X) shows a single sharp peak with cases rising and falling within one incubation period. This pattern is typical of a:



- (A) Propagated (person-to-person) epidemic
- (B) Point-source (common-source, single-exposure) epidemic
- (C) Endemic disease at a steady level
- (D) Slow, continuous common-source epidemic

Communicable Diseases

Q4. The limitation of movement of **apparently healthy** persons who have been exposed to a communicable disease, for the maximum incubation period, is called:

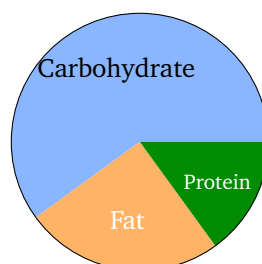
- (A) Isolation
- (B) Quarantine
- (C) Cohorting
- (D) Disinfection



- Q5.** Under the International Health Regulations (2005), a member state must notify a Public Health Emergency of International Concern (for example a novel influenza such as H1N1, or COVID-19) to which authority?
- (A) World Health Organization (WHO)
 - (B) United Nations Security Council
 - (C) World Bank
 - (D) International Committee of the Red Cross
- Q6.** The natural reservoir of the Nipah virus, an emerging cause of encephalitis outbreaks in India, is the:
- (A) Fruit bat (Pteropus species)
 - (B) Aedes mosquito
 - (C) Domestic dog
 - (D) Freshwater snail

Non-communicable Diseases and Nutrition

- Q7.** Under FSSAI food-safety standards, argemone oil is a well-recognised adulterant that causes epidemic dropsy. It is most commonly used to adulterate:
- (A) Milk
 - (B) Turmeric powder
 - (C) Mustard oil
 - (D) Common salt
- Q8.** The pie chart shows the recommended share of total daily energy from the three macronutrients in a **balanced diet**. Which set of proportions is correct?



- (A) Carbohydrate 50–70%, fat 20–30%, protein 10–15%
- (B) Carbohydrate 20%, fat 50%, protein 30%
- (C) Protein 50%, carbohydrate 30%, fat 20%
- (D) Fat 60%, carbohydrate 25%, protein 15%

Maternal, Child Health and Family Planning

- Q9.** The Rashtriya Kishor Swasthya Karyakram (RKSK), the national adolescent health programme, targets which age group?
- (A) 0–5 years
 - (B) 6–9 years
 - (C) 10–19 years
 - (D) 20–29 years
- Q10.** Under the Weekly Iron and Folic Acid Supplementation (WIFS) programme for adolescents, each weekly tablet contains:
- (A) 20 mg elemental iron + 100 mcg folic acid
 - (B) 45 mg elemental iron + 400 mcg folic acid
 - (C) 60 mg elemental iron + 500 mcg folic acid
 - (D) 100 mg elemental iron + 500 mcg folic acid
- Q11.** The Rashtriya Bal Swasthya Karyakram (RBSK) school and child health screening covers the “4 Ds”. Along with defects at birth, deficiencies and diseases, the fourth “D” is:
- (A) Dental caries only
 - (B) Dehydration
 - (C) Development delays including disabilities
 - (D) Drug abuse

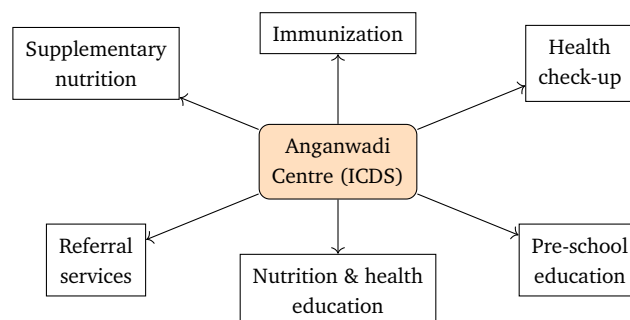
Environmental and Occupational Health



- Q12.** The most severe heat disorder, marked by a core body temperature above 40 °C, hot dry skin and failure of the thermoregulatory centre, is:
- (A) Heat cramps
 - (B) Heat stroke (sunstroke)
 - (C) Heat syncope
 - (D) Prickly heat (miliaria)
- Q13.** Which piece of legislation provides medical care and cash benefits (for sickness, maternity, disablement and employment injury) to organised-sector industrial workers in India?
- (A) The Factories Act, 1948
 - (B) The Mines Act, 1952
 - (C) The Workmen's Compensation Act, 1923
 - (D) The Employees' State Insurance (ESI) Act, 1948

Health Programmes, Demography and Health Systems

- Q14.** The diagram shows the package delivered at an Anganwadi centre under the Integrated Child Development Services (ICDS) scheme, which provides **six** services. Which option correctly lists these six services?



- (A) Supplementary nutrition, immunization, family planning, sanitation, water supply and pre-school education
- (B) Immunization, health check-up, treatment of tuberculosis, referral, deworming and nutrition education



- (C) Supplementary nutrition, immunization, health check-up, referral services, nutrition and health education, and non-formal pre-school education
- (D) Supplementary nutrition, immunization, cataract surgery, referral, health education and cash transfer

Q15. POSHAN Abhiyaan (National Nutrition Mission) sets an annual reduction target for stunting among children under six years. That target is a reduction of:

- (A) 2% per year
- (B) 10% per year
- (C) 25% per year
- (D) 50% per year



Detailed Solutions**Q1.****Solution**

Concept – basic reproduction number: R_0 measures the transmissibility of an infection.

Step 1 – state the definition: R_0 is the **average number of secondary cases** that one infected person generates.

Step 2 – add the condition: This is measured in a **fully susceptible population**, with no immunity and no control measures.

Step 3 – interpret: If R_0 is greater than 1 the infection can spread; if it is below 1 the outbreak dies out.

Why the other options are wrong:

- A, persons already immune: this relates to herd immunity, not R_0 .
- C, proportion who develop disease: that describes the attack rate or pathogenicity.
- D, exposure-to-symptom interval: that is the incubation period.

Final Answer: Average secondary cases in a susceptible population $\Rightarrow$ **B**

Answer: (B) [Go Back to Q1](#)

Q2.**Solution**

Concept – attack rate: The attack rate is a special incidence rate used in outbreaks.

Step 1 – write the formula: Attack rate = (new cases during the period $\div$ population at risk during the period) $\times$ 100.

Step 2 – apply the figures: Attack rate = $(120 \div 400) \times 100 = 30\%$.

Step 3 – note the use: It compares exposed and unexposed groups to trace the source of an outbreak.

Why the other options are wrong:

- A, deaths $\div$ cases: that is the case fatality rate.
- B, new cases $\div$ mid-year population: that is the incidence rate.
- C, existing cases $\div$ population at a point: that is point prevalence.



Final Answer: New cases $\div$ population at risk $\times$ 100 $\Rightarrow$ **D**

Answer: (D) [Go Back to Q2](#)

Q3.

Solution

Concept – reading an epidemic curve: The shape of the curve reveals the mode of spread.

Step 1 – read curve X: A **single sharp peak**, with all cases within one incubation period, points to a common exposure at one moment.

Step 2 – name the pattern: This is a **point-source (common-source, single-exposure) epidemic**, for example food poisoning from one contaminated meal.

Step 3 – contrast: A propagated epidemic shows successive, progressively taller peaks one incubation period apart.

Why the other options are wrong:

- A, propagated: gives multiple peaks, not one.
- C, endemic: a steady baseline, no epidemic peak.
- D, continuous common source: a broad plateau, not a single sharp peak.

Final Answer: Point-source epidemic $\Rightarrow$ **B**

Answer: (B) [Go Back to Q3](#)

Q4.

Solution

Concept – quarantine versus isolation: The two terms apply to different groups.

Step 1 – define quarantine: **Quarantine** restricts the movement of **apparently healthy but exposed** persons for the maximum incubation period.

Step 2 – contrast with isolation: Isolation separates persons who are **already ill** (known cases) to stop them infecting others.

Why the other options are wrong:

- A, isolation: applies to sick, infectious cases, not the well-but-exposed.
- C, cohorting: grouping patients with the same infection together in hospital.
- D, disinfection: killing pathogens on surfaces, not a movement restriction.

Final Answer: Quarantine $\Rightarrow$ **B**



Answer: (B) [Go Back to Q4](#)

Q5.

Solution

Concept – International Health Regulations (2005): The IHR create a global framework for outbreak reporting.

Step 1 – identify the authority: A Public Health Emergency of International Concern must be notified to the **World Health Organization (WHO)**.

Step 2 – add the rule: Notification is required within 24 hours of assessment, as seen with H1N1 influenza and COVID-19.

Why the other options are wrong:

- B, UN Security Council: handles peace and security, not disease notification.
- C, World Bank: a financing body, not the IHR focal point.
- D, Red Cross: a humanitarian relief agency, not the reporting authority.

Final Answer: World Health Organization ⇒

Answer: (A) [Go Back to Q5](#)

Q6.

Solution

Concept – Nipah virus reservoir: Nipah is a zoonotic paramyxovirus causing encephalitis.

Step 1 – name the reservoir: The natural reservoir is the **fruit bat (Pteropus species)**.

Step 2 – trace the spread: Humans are infected by fruit or date-palm sap contaminated with bat secretions, then by person-to-person contact.

Why the other options are wrong:

- B, Aedes mosquito: vector of dengue and chikungunya, not Nipah.
- C, domestic dog: reservoir of rabies, not Nipah.
- D, freshwater snail: intermediate host of schistosomiasis, not Nipah.

Final Answer: Fruit bat (Pteropus) ⇒

Answer: (A) [Go Back to Q6](#)



Q7.

Solution

Concept – food adulteration under FSSAI: Each adulterant is linked to a specific food.

Step 1 – match argemone oil: Argemone (Argemone mexicana) oil is used to adulterate **mustard oil**.

Step 2 – state the harm: It causes **epidemic dropsy**, with oedema, glaucoma and heart failure.

Why the other options are wrong:

- A, milk: adulterated with water, starch or urea, not argemone oil.
- B, turmeric: adulterated with metanil yellow or lead chromate.
- D, common salt: adulterated with white powdered stone or chalk.

Final Answer: Mustard oil $\Rightarrow$

Answer: (C) [Go Back to Q7](#)

Q8.

Solution

Concept – macronutrient share of a balanced diet: The pie chart shows the energy split.

Step 1 – read the proportions: Carbohydrate supplies the largest slice, **50–70%** of energy; fat **20–30%**; protein **10–15%**.

Step 2 – confirm the logic: Carbohydrate is the main energy source, fat is energy-dense, and protein is mainly for growth and repair.

Why the other options are wrong:

- B, fat 50%: far above the recommended fat share.
- C, protein 50%: protein is never the dominant energy source in a balanced diet.
- D, fat 60%: an unhealthy, fat-heavy pattern, not balanced.

Final Answer: Carbohydrate 50–70%, fat 20–30%, protein 10–15% $\Rightarrow$

Answer: (A) [Go Back to Q8](#)



Q9.

Solution

Concept – RKSK target group: Adolescence is the programme's focus.

Step 1 – state the age band: RKSK targets adolescents aged 10–19 years.

Step 2 – note the priorities: It addresses nutrition, sexual and reproductive health, mental health, injuries, violence and substance misuse.

Why the other options are wrong:

- A, 0–5 years: covered by ICDS and child health programmes.
- B, 6–9 years: the school-age child, not the RKSK band.
- D, 20–29 years: young adults, outside the adolescent definition.

Final Answer: 10–19 years ⇒

Answer: (C) [Go Back to Q9](#)

Q10.

Solution

Concept – WIFS tablet composition: The weekly dose is fixed for adolescents.

Step 1 – state the dose: Each weekly tablet contains 100 mg elemental iron and 500 mcg folic acid.

Step 2 – add the schedule: It is given once a week to adolescent boys and girls (10–19 years) to prevent iron-deficiency anaemia, with biannual deworming.

Why the other options are wrong:

- A, 20 mg iron: matches the paediatric syrup dose, not the adolescent tablet.
- B, 45 mg iron: not the WIFS adolescent formulation.
- C, 60 mg iron: close to the antenatal IFA dose, but the WIFS adolescent tablet carries 100 mg.

Final Answer: 100 mg iron + 500 mcg folic acid ⇒

Answer: (D) [Go Back to Q10](#)



Q11.

Solution

Concept – the “4 Ds” of RBSK: RBSK screens children from birth to 18 years.

Step 1 – list the four Ds: Defects at birth, Deficiencies, Diseases and **Development delays including disabilities.**

Step 2 – note the aim: Early detection and free management, including referral to District Early Intervention Centres.

Why the other options are wrong:

- A, dental caries only: too narrow; it is one condition among many.
- B, dehydration: an acute illness, not one of the four Ds.
- D, drug abuse: addressed under adolescent health (RKSK), not the RBSK 4 Ds.

Final Answer: Development delays including disabilities ⇒

Answer: (C) [Go Back to Q11](#)

Q12.

Solution

Concept – heat disorders: They form a spectrum of severity.

Step 1 – identify the most severe: **Heat stroke (sunstroke)** is the medical emergency, with core temperature above 40 °C, hot dry skin and central nervous system dysfunction.

Step 2 – explain the mechanism: The thermoregulatory centre fails and sweating stops, so heat is no longer lost.

Why the other options are wrong:

- A, heat cramps: painful muscle spasms from salt loss, not life-threatening.
- C, heat syncope: transient fainting from peripheral vasodilatation.
- D, prickly heat: a benign sweat-duct rash.

Final Answer: Heat stroke ⇒

Answer: (B) [Go Back to Q12](#)



Q13.

Solution

Concept – occupational health legislation: Different Acts serve different purposes.

Step 1 – name the Act: The **Employees' State Insurance (ESI) Act, 1948** provides medical care and cash benefits for sickness, maternity, disablement and employment injury.

Step 2 – add the mechanism: It is a contributory social-insurance scheme funded by employer and employee contributions.

Why the other options are wrong:

- A, Factories Act 1948: regulates working conditions, safety and welfare in factories.
- B, Mines Act 1952: governs safety in mines.
- C, Workmen's Compensation Act 1923: gives lump-sum compensation for injury but no ongoing medical care or insurance benefits.

Final Answer: Employees' State Insurance Act, 1948 ⇒ D

Answer: (D) [Go Back to Q13](#)

Q14.

Solution

Concept – the six ICDS services: ICDS is delivered through the Anganwadi centre.

Step 1 – list the six services: Supplementary nutrition, immunization, health check-up, referral services, nutrition and health education, and non-formal pre-school education.

Step 2 – note the beneficiaries: Children under six years, pregnant and lactating women, and adolescent girls.

Why the other options are wrong:

- A, includes family planning, sanitation and water supply: these are not ICDS services.
- B, includes treatment of tuberculosis and deworming: not part of the six-service package.
- D, includes cataract surgery and cash transfer: not ICDS services.



Final Answer: Nutrition, immunization, health check-up, referral, nutrition/health education, pre-school education $\Rightarrow$ **C**

Answer: (C) [Go Back to Q14](#)

Q15.

Solution

Concept – POSHAN Abhiyaan targets: The mission sets measurable annual goals.

Step 1 – state the stunting target: POSHAN Abhiyaan aims to reduce stunting in children under six years by **2% per year**.

Step 2 – add the wider goals: It also targets a 2% per year cut in undernutrition and a 3% per year cut in anaemia among children, adolescent girls and women.

Why the other options are wrong:

- B, 10% per year: far higher than any realistic annual target.
- C, 25% per year: not achievable and not the stated goal.
- D, 50% per year: implausible for population-level stunting reduction.

Final Answer: 2% per year $\Rightarrow$ **A**

Answer: (A) [Go Back to Q15](#)



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	D	3	B	4	B	5	A
6	A	7	C	8	A	9	C	10	D
11	C	12	B	13	D	14	C	15	A

