

INI CET Community Medicine

Sample Paper – 7

Duration: 14 Minutes

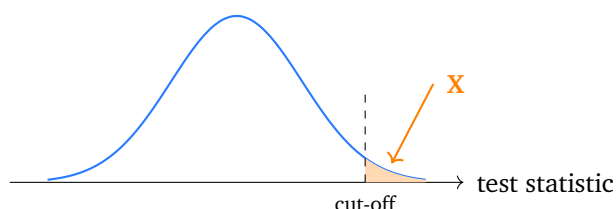
Maximum Marks: 15

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.** In the sampling distribution shown, the shaded tail lying beyond the critical cut-off (marked X) represents the area used to decide significance. This region is the:



- (A) The 95% confidence interval
- (B) The region of the null hypothesis mean
- (C) The area of type II (beta) error



(D) The region of rejection (where p is less than 0.05)

Q2. Which statement correctly defines the p -value obtained in a test of significance?

(A) The probability of obtaining a result as extreme as, or more extreme than, that observed if the null hypothesis were true

(B) The probability that the null hypothesis is true

(C) The probability that the alternative hypothesis is false

(D) The probability of committing a type II error

Q3. To test whether an association exists between two categorical variables set out in a contingency table (for example, smoking status against disease status), the most appropriate test of significance is the:

(A) Paired Student t -test

(B) Chi-square test

(C) Pearson correlation coefficient

(D) One-way analysis of variance (ANOVA)

Communicable Diseases

Q4. The total osmolarity of the WHO recommended reduced (low) osmolarity oral rehydration salt solution used in the management of acute diarrhoea is:

(A) 311 mOsm/L

(B) 245 mOsm/L

(C) 200 mOsm/L

(D) 90 mOsm/L

Q5. Epidemic cholera, marked by rapid onset of profuse watery diarrhoea leading to dehydration, is caused by:

(A) *Vibrio cholerae*



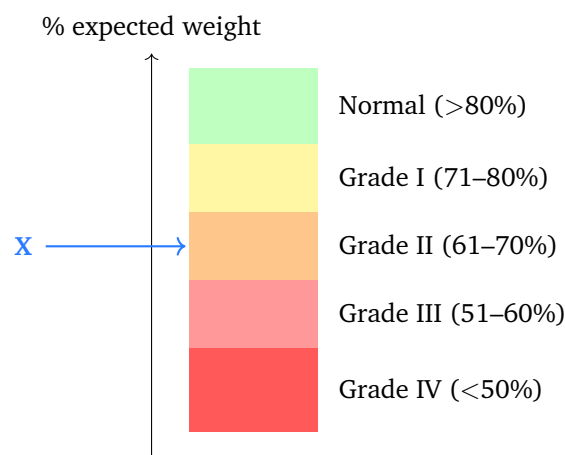
- (B) *Shigella dysenteriae*
- (C) Rotavirus
- (D) *Entamoeba histolytica*

Q6. The stool passed by a patient with severe cholera is classically described as:

- (A) Currant-jelly stool
- (B) Pea-soup stool
- (C) Bloody mucoid stool
- (D) Rice-water stool

Non-communicable Diseases and Nutrition

Q7. The chart shows the IAP (Indian Academy of Pediatrics) classification of protein-energy malnutrition by weight-for-age. A child whose weight is 61 to 70 per cent of the expected weight for age (the band marked **X**) is graded as:



- (A) Normal nutrition
- (B) Grade I malnutrition
- (C) Grade II malnutrition
- (D) Grade IV malnutrition

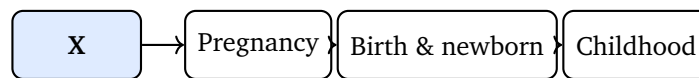
Q8. According to WHO infant and young-child feeding recommendations, exclusive breastfeeding (breast milk only, with no other food or water) should be practised for the first:



- (A) 4 months of life
- (B) 6 months of life
- (C) 12 months of life
- (D) 3 months of life

Maternal, Child Health and Family Planning

Q9. The flow shows the continuum of care across life stages under the national strategy. The stage marked **X**, which the RMNCH+A approach newly added to the earlier RCH continuum (the “+A” component), is:



- (A) Adolescents
 - (B) The elderly
 - (C) Migrant workers
 - (D) Adult men
- Q10.** Which of the following is a spacing (temporary) method of contraception rather than a permanent (terminal) method?
- (A) Vasectomy
 - (B) Tubectomy
 - (C) Hysterectomy
 - (D) Intrauterine contraceptive device (Copper-T)
- Q11.** Under the revised WHO 2016 antenatal care model adopted within the RMNCH+A continuum, the recommended minimum number of antenatal care contacts for a pregnant woman is:
- (A) 3 contacts
 - (B) 4 contacts
 - (C) 8 contacts
 - (D) 12 contacts



Environmental and Occupational Health

- Q12.** By the floor-space criterion used to assess housing, overcrowding is said to exist when the floor area available falls below the accepted minimum. That minimum floor area per person is:
- (A) 20 square feet per person
 - (B) 30 square feet per person
 - (C) 50 square feet per person
 - (D) 100 square feet per person
- Q13.** For adequate ventilation of a living room, the recommended optimum number of air changes per hour is about:
- (A) 1 air change per hour
 - (B) 2 to 3 air changes per hour
 - (C) 6 air changes per hour
 - (D) 10 air changes per hour

Health Programmes, Demography and Health Systems

- Q14.** Under the Ayushman Bharat programme, the Health and Wellness Centres (HWCs) created by upgrading sub-centres and primary health centres are designed mainly to deliver:
- (A) Only routine immunisation services
 - (B) Only tertiary (super-speciality) hospital care
 - (C) Comprehensive primary health care
 - (D) Only emergency trauma care
- Q15.** Under the second component of Ayushman Bharat, the Pradhan Mantri Jan Arogya Yojana (PM-JAY), the health cover provided to each eligible family per year for secondary and tertiary hospitalisation is:



- (A) Rs. 5 lakh per family per year
- (B) Rs. 1 lakh per family per year
- (C) Rs. 10 lakh per family per year
- (D) Rs. 50,000 per family per year



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

Concept – region of rejection: A test of significance splits the sampling distribution into an acceptance zone and a rejection zone.

Step 1 – read the figure: The dashed line is the critical (cut-off) value. The tail beyond it is shaded.

Step 2 – interpret X: This shaded tail is the **region of rejection**. If the observed test statistic falls here, the p-value is less than 0.05 and the null hypothesis is rejected.

Why the other options are wrong:

- A, confidence interval: describes the central estimate range, not the tail.
- B, null mean: sits at the centre of the curve, not in the tail.
- C, type II error: relates to the alternative distribution, not this shaded area.

Final Answer: The region of rejection $\Rightarrow$ **D**

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

Q2.**Solution**

Concept – meaning of the p-value: The p-value is a conditional probability computed under the null hypothesis.

Step 1 – state the definition: It is the **probability of obtaining a result as extreme as, or more extreme than, the one observed, assuming the null hypothesis is true**.

Step 2 – apply it: A small p-value (below the chosen alpha, usually 0.05) means the data are unlikely under the null, so we reject it.

Why the other options are wrong:

- B: the p-value is not the probability that the null hypothesis itself is true.
- C: it does not measure whether the alternative is false.
- D: the probability of a type II error is beta, a different quantity.

Final Answer: Probability of a result this extreme if the null is true $\Rightarrow$ **A**

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



Q3.

Solution

Concept – choosing a test for categorical data: The scale of the variables decides the test.

Step 1 – classify the data: Both variables are categorical and are cross-tabulated in a contingency table.

Step 2 – pick the test: The **chi-square test** compares observed and expected frequencies to test association.

Why the other options are wrong:

- A, paired t-test: compares means of paired continuous data.
- C, Pearson correlation: measures linear relation between two continuous variables.
- D, ANOVA: compares means across three or more groups.

Final Answer: Chi-square test $\Rightarrow$ **B**

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

Q4.

Solution

Concept – reduced osmolarity ORS: The WHO and UNICEF revised ORS in 2003 to a lower osmolarity formula.

Step 1 – recall the value: The total osmolarity of the reduced osmolarity ORS is **245 mOsm/L** (sodium 75, glucose 75, chloride 65, potassium 20, citrate 10 mmol/L).

Step 2 – rationale: The lower osmolarity reduces stool volume, vomiting and the need for intravenous fluids compared with the old formula.

Why the other options are wrong:

- A, 311 mOsm/L: the older, higher osmolarity ORS.
- C, 200 and D, 90: not standard ORS osmolarity values.

Final Answer: 245 mOsm/L $\Rightarrow$ **B**

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



Q5.

Solution

Concept – cause of cholera: Cholera is a classic epidemic-prone, water-borne bacterial disease.

Step 1 – name the organism: Cholera is caused by **Vibrio cholerae**, a comma-shaped gram-negative bacillus (serogroups O1 and O139).

Step 2 – mechanism: Its enterotoxin drives massive secretion of isotonic fluid into the gut, causing watery diarrhoea and dehydration.

Why the other options are wrong:

- B, *Shigella dysenteriae*: causes bacillary dysentery with bloody stools.
- C, Rotavirus: a common cause of childhood viral gastroenteritis, not epidemic cholera.
- D, *Entamoeba histolytica*: causes amoebic dysentery and liver abscess.

Final Answer: *Vibrio cholerae* ⇒ A

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

Q6.

Solution

Concept – clinical hallmark of cholera: The stool character is a well-known examination clue.

Step 1 – describe the stool: Severe cholera produces **rice-water stool**, a colourless watery fluid flecked with mucus, without blood or faecal odour.

Step 2 – significance: It reflects the enormous secretory fluid loss and warns of rapid, life-threatening dehydration.

Why the other options are wrong:

- A, currant-jelly stool: seen in intussusception.
- B, pea-soup stool: described in typhoid (enteric fever).
- C, bloody mucoid stool: typical of bacillary or amoebic dysentery.

Final Answer: Rice-water stool ⇒ D

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



Q7.

Solution

Concept – IAP weight-for-age grading: The Indian Academy of Pediatrics grades malnutrition by weight as a percentage of the expected weight for age.

Step 1 – read the band X: X points to the 61 to 70 per cent band.

Step 2 – assign the grade: This band is **Grade II malnutrition** (Normal >80%, Grade I 71–80%, Grade II 61–70%, Grade III 51–60%, Grade IV <50%).

Why the other options are wrong:

- A, normal: applies above 80 per cent.
- B, Grade I: the 71–80 per cent band above X.
- D, Grade IV: the most severe band, below 50 per cent.

Final Answer: Grade II malnutrition $\Rightarrow$

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

Q8.

Solution

Concept – exclusive breastfeeding: WHO defines a clear window for breast milk only.

Step 1 – state the duration: Exclusive breastfeeding is recommended for the first **6 months** of life.

Step 2 – what follows: After 6 months, appropriate complementary feeding should begin while breastfeeding continues up to 2 years and beyond.

Why the other options are wrong:

- A, 4 months and D, 3 months: too early to introduce complementary foods.
- C, 12 months: complementary feeding is meant to start at 6 months, not at 1 year.

Final Answer: 6 months $\Rightarrow$

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



Q9.

Solution

Concept – RMNCH+A continuum of care: RMNCH+A stands for Reproductive, Maternal, Newborn, Child and Adolescent Health.

Step 1 – identify X: The “+A” added to the older RCH framework is **Adolescent health**, so X is the adolescents stage.

Step 2 – rationale: Including adolescents links the life stages into an unbroken continuum, since adolescent health shapes future pregnancy and child outcomes.

Why the other options are wrong:

- B, C, D: the elderly, migrant workers and adult men are not the group denoted by the “+A” in RMNCH+A.

Final Answer: Adolescents ⇒

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

Q10.

Solution

Concept – spacing versus terminal methods: Contraceptive methods are either temporary (spacing) or permanent (terminal).

Step 1 – classify the options: The **intrauterine contraceptive device (Copper-T)** is a reversible spacing method.

Step 2 – confirm: Its effect ends when the device is removed, so fertility returns.

Why the other options are wrong:

- A, vasectomy and B, tubectomy: permanent surgical sterilisation methods.
- C, hysterectomy: removal of the uterus, not a contraceptive method as such and permanent.

Final Answer: Intrauterine contraceptive device (Copper-T) ⇒

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



Q11.

Solution

Concept – revised antenatal care model: WHO revised its ANC guidance in 2016 to improve maternal and perinatal outcomes.

Step 1 – recall the number: The 2016 model recommends a minimum of **8 antenatal care contacts** during pregnancy.

Step 2 – context: This replaced the earlier focused 4-visit model, adding contacts especially in the first and third trimesters.

Why the other options are wrong:

- A, 3 contacts: below any recommended minimum.
- B, 4 contacts: the older focused ANC schedule, now revised upward.
- D, 12 contacts: not the WHO 2016 recommendation.

Final Answer: 8 contacts $\Rightarrow$

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

Q12.

Solution

Concept – overcrowding by floor space: Housing standards fix a minimum floor area per person.

Step 1 – recall the standard: The accepted minimum is **50 square feet per person** (with about 100 square feet regarded as optimum). Below 50 square feet indicates overcrowding.

Step 2 – significance: Overcrowding favours the spread of droplet infections such as tuberculosis and respiratory illness.

Why the other options are wrong:

- A, 20 and B, 30 square feet: below the accepted minimum.
- D, 100 square feet: this is the optimum figure, not the overcrowding threshold.

Final Answer: 50 square feet per person $\Rightarrow$

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



Q13.

Solution

Concept – ventilation standard: Air changes per hour measure how often room air is replaced by fresh air.

Step 1 – recall the value: The recommended optimum for a living room is about 2 to 3 air changes per hour.

Step 2 – significance: Adequate air changes remove excess heat, moisture, carbon dioxide and odours and dilute airborne infection.

Why the other options are wrong:

- A, 1 air change: insufficient for comfort and dilution.
- C, 6 and D, 10 air changes: far higher than needed for an ordinary living room.

Final Answer: 2 to 3 air changes per hour ⇒ **B**

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

Q14.

Solution

Concept – Health and Wellness Centres: Ayushman Bharat has two pillars; the first is the HWCs.

Step 1 – state their purpose: HWCs, formed by upgrading sub-centres and PHCs, deliver **comprehensive primary health care**.

Step 2 – scope: This expands care beyond maternal and child services to include non-communicable diseases, mental health, elderly and palliative care, and screening.

Why the other options are wrong:

- A, only immunisation: far narrower than the HWC package.
- B, only tertiary care: HWCs are a primary-care platform.
- D, only trauma care: not their defining role.

Final Answer: Comprehensive primary health care ⇒ **C**

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



Q15.

Solution

Concept – PM-JAY cover: PM-JAY is the insurance arm of Ayushman Bharat for secondary and tertiary hospitalisation.

Step 1 – recall the amount: It provides a cover of **Rs. 5 lakh per eligible family per year**.

Step 2 – coverage: The benefit is cashless and portable across empanelled public and private hospitals for the identified beneficiary families.

Why the other options are wrong:

- B, Rs. 1 lakh and D, Rs. 50,000: below the actual annual cover.
- C, Rs. 10 lakh: higher than the PM-JAY entitlement.

Final Answer: Rs. 5 lakh per family per year $\Rightarrow$

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



Answer Key

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

