

FIITJEE COMMON TEST

Batch: NWCMLG122A1_PT-1

PHASE TEST

QP CODE:

Time : 1:30 Hrs.

Maximum Marks : 90

Scholastic Aptitude Test

Instructions

- The question paper consists of **90** multiple choice questions divided into four sections.
Section – I contains **45** questions of **Mathematics**.
Section – II contains **15** questions of **Physics**.
Section – III contains **15** questions of **Chemistry**.
Section – IV contains **15** questions of **Biology**.
- Each question carries **+1** marks.
- There is **No negative** marking.
- Attempt **All** questions.
- Use of Calculator is **NOT PERMITTED**.
- All symbols have their usual meanings, if not mentioned in the question.
- The Question Paper contains blank spaces for your rough work.
No additional sheets will be provided for rough work.
- This booklet also contains **OMR** answer sheet.

Name of the Candidate :

Enrollment Number :

**SECTION – I
MATHEMATICS**

1. Value of $976 \times 237 + 976 \times 763$ is
(A) 968000 (B) 976000
(C) 100000 (D) 900000
1. B
2. The expression $(5 + 8) \times 6$ can be written as:
(A) $5 + 8 \times 6$ (B) $5 \times 6 + 8$
(C) $(5 \times 6) + (6 \times 8)$ (D) $(6 \times 8) + 5$
2. C
3. Using 5, 4, 0, 3 without repetition, make the greatest and smallest 4-digit numbers respectively.
(A) 5403, 0345 (B) 5430, 3045
(C) 5430, 0345 (D) 5304, 3450
3. B
4. The number 42 in Roman Numeral can be written as
(A) LXI (B) XLII
(C) XXXXII (D) XL
4. B
5. The representation of the smallest 5-digit number using three different digit is
(A) 10002 (B) 11002
(C) 100000 (D) 12300
5. A
6. The round off of the number 346578 to its nearest lakh is
(A) 400000 (B) 300000
(C) 340000 (D) 346000
6. B
7. What will be the unit digit of 13^{41}
(A) 3 (B) 0
(C) 1 (D) 9
7. A
8. Which of the following statements is/are correct ?
i. Whole numbers are closed under addition
ii. Whole number are closed under subtraction
iii. Whole number are closed under multiplication
iv. Whole number are closed under division
(A) All of these (B) only (i) and (iii)
(C) only (ii) and (iv) (D) None of these

8. B
9. A school canteen charges Rs. 25 and Rs. 5 for biscuits and milk, respectively. How much money is spent by a student in 6 days on both the items if he has one of each on all the six days?
(A) 180 (B) 150
(C) 120 (D) 100
9. A
10. Sam bought 215 bunches of bananas. If there were 302 bananas in each bunch, then how many bananas did Sam buy in total ?
(A) 54930 (B) 64930
(C) 65930 (D) 64830
10. B
11. If $45 - [28 - \{36 - (13 + x)\}] = 60$, then x is
(A) - 19 (B) 19
(C) 20 (D) -20
11. D
12. For 68, how many factors are there?
(A) 4 (B) 5
(C) 6 (D) 7
12. C
13. Which of the following is not a factor of 94?
(A) 2 (B) 47
(C) 17 (D) 1
13. C
14. If a number 8P97546 is divisible by 3, what is the value of P?
(A) 4 (B) 5
(C) 6 (D) 7
14. C
15. Find the missing digit such that the 8__9484 is divisible by 11
(A) 5 (B) 6
(C) 7 (D) 8
15. B
16. Which of the following numbers is divisible by 11?
(A) 235698 (B) 5697451
(C) 4263556 (D) 13231
16. C

17. Renu purchases two bags of fertiliser weighing 75 kg and 69 kg. Find the maximum value of the weight which when used an exact number of times can measure the weight of the fertiliser in each bag.
 (A) 3 kg (B) 8 kg
 (C) 5 kg (D) None of these
17. A
18. Which numbers have both 6 and 35 as their multiples
 (A) 1 (B) 6
 (C) 7 (D) 5
18. A
19. Roman numeral for 769 is
 (A) DCCXLIX (B) DXCVI
 (C) DCCLXIX (D) DCCCL
19. C
20. $8 - [28 \div \{34 - (36 - 18 \div 9 \times 8)\}] = ?$
 (A) 6 (B) $6\frac{4}{9}$
 (C) 25 (D) None of these
20. A
21. $-[(-45) - (-13)]$ _____ $-[(-13) - (-45)]$
 (A) > (B) <
 (C) = (D) none of these
21. A
22. Which of the following is a composite number?
 (A) 23 (B) 17
 (C) 19 (D) 39
22. D
23. _____ $-1046 - 398 - 69 = 999$
 (A) 2502 (B) 2512
 (C) 1868 (D) 1978
23. B
24. Subtract the sum of -1032 and 878 from -34
 (A) 85 (B) 120
 (C) 76 (D) None of these
24. B

25. Find, if $a - |-6| = 0$
 (A) $a = 6$ (B) $a = -6$
 (C) $a = \frac{1}{6}$ (D) $a = \frac{1}{-6}$
25. A
26. _____ = $618 \times 43 + 618 \times 56$
 (A) $618(43 + 56)$ (B) $43(618 \times 56)$
 (C) $43(56 + 618)$ (D) None of these
26. A
27. Given that $A = (5 \times 4) \times 6$, $B = 6 \times (3 \times 4)$ then $A - B$ is
 (A) 40 (B) 24
 (C) 48 (D) 46
27. C
28. Multiplicative inverse of $\left(\frac{7}{3} \div \frac{4}{7} + \frac{1}{6}\right)$ is
 (A) $\frac{51}{12}$ (B) $\frac{12}{51}$
 (C) $\frac{49}{12}$ (D) $\frac{12}{49}$
28. B
29. The HCF and the LCM of two numbers are 24 and 1008. If one of the numbers is 168, then find the other number.
 (A) 336 (B) 252
 (C) 198 (D) 144
29. D
30. If the number $5p^2$ is divisible by 6, then the value of p is
 (A) 2 (B) 3
 (C) 6 (D) 7
30. A
31. If a and b are odd numbers, then which of the following is even ?
 (A) $a + b$ (B) $a + b + 1$
 (C) ab (D) $ab + 2$
31. A
32. The smallest negative integer is
 (A) 0 (B) -100
 (C) -1 (D) none of these
32. D

33. $2 - [2 - \{2 - 2(2 + 2)\}] = ?$
(A) -4 (B) 4
(C) 6 (D) none of these
33. D
34. Number of multiples of 9 upto 100 are
(A) 12 (B) 9
(C) 11 (D) 10
34. C
35. If $a = (-1)^{2009}$ and $b = (-1)^{2010}$, then find the value of ab
(A) 1 (B) -1
(C) 2009 (D) 2010
35. B
36. M and N are two co-primes, which of the following is/are correct?
(A) $\text{LCM}(M, N) = M \times N$ (B) $\text{HCF}(M, N) = 1$
(C) Both (A) and (B) (D) Neither (A) nor (B)
36. C
37. If the number 517p324 is completely divisible by 3, then the smallest whole number is place of p will be
(A) 0 (B) 1
(C) 2 (D) None of these
37. C
38. Which one of the following is prime number ?
(A) 119 (B) 187
(C) 247 (D) None of these
38. D
39. The number of divisors every prime number has:
(A) 0 (B) 1
(C) 2 (D) 3
39. C
40. The greatest positive integer is
(A) 0 (B) 100
(C) 999 (D) none of these
40. D
41. Find the value of $5!$ (factorial)
(A) 120 (B) 60
(C) 30 (D) 90
41. A

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42. The integer which is its own additive inverse is
(A) 0 (B) -1
(C) +1 (D) none of these
42. A
43. The difference of largest and smallest three digit whole number is
(A) 699 (B) 799
(C) 899 (D) 999
43. C
44. $(+11) - (+46) + (-35) + (+7)$
(A) -77 (B) -63
(C) 7 (D) 9
44. B
45. 0.756×10 is equal to
(A) 7.56 (B) 756
(C) 75.6 (D) None of these
45. A

SECTION – II PHYSICS

1. A jet is moving with a speed of 60 m/s. What is its speed in km/h
 (A) 200 km/h (B) 216 km/h
 (C) 300 km/h (D) 252 km/h

1. **B**

Sol. $60 \text{ m/s} = 60 \times 18/5 = 216 \text{ km/h}$.

2. Which of the following shows a motion in a straight line
 (A) Train on a straight bridge (B) Tree swaying
 (C) Child on a merry-go-round (D) None of these

2. **A**

Sol. Train on a straight bridge.

3. With what speed should a car travel so that it can cover a distance of 5 km in 5 min
 (A) 1 km/h (B) 5 km/h
 (C) 12 km/h (D) 60 km/h

3. **D**

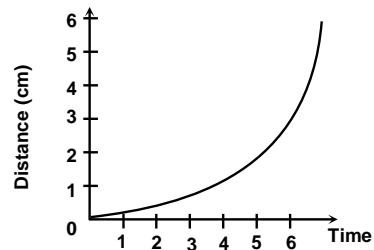
Sol. Speed = distance /time = $5 / (5/60) \text{ km/h}$

4. The CGS unit of speed is
 (A) cm/g (B) m/s
 (C) m/g (D) cm/s

4. **D**

Sol. The CGS unit of speed is cm/s.

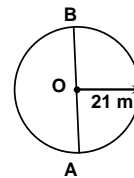
5. What kind of motion does the distance time graph of an object represent?
 (A) Non uniform motion
 (B) Uniform motion
 (C) The object is at rest
 (D) Meaningless graph



5. **A**

Sol. Non uniform motion.

6. A body is moving on a circular track of radius 21 m and goes from A to B in 7 sec. Average velocity of the body in moving from A to B.
 (A) zero (B) 42 m/sec
 (C) 21 m/sec (D) 6 m/sec



6. **D**

Sol. Average velocity = $\frac{42}{7}$.

7. Which of the following is a vector physical quantity?
 (A) distance covered (B) time interval
 (C) average velocity (D) mass

7. **C**

Sol. Average Velocity

8. The motion of the arms of soldiers on a march past is
 (A) circular (B) oscillatory
 (C) random (D) nonperiodic

8. **B**

Sol. The motion of the arms of soldiers on a march past is oscillatory.

9. To measure speed of the vehicle, we use
 (A) odometer (B) speedometer
 (C) lactometer (D) ammeter

9. **B**

Sol. Speedometer

10. 1 decade is equal to
 (A) 20 years (B) 10 years
 (C) 5 years (D) 15 years

10. **B**

Sol. 1 decade is equal to 10 years

11. A car travels with a speed of 50 km/h in the 1st hour and with 100 km/h in the 2nd hour. What is the total distance covered by the car in the two hours?
 (A) 50 km (B) 100 km
 (C) 150 km (D) 200 km

11. **C**

Sol. For 1st hour – distance = speed × time = 50

For 2nd hour – distance = 100 km

So total distance = 150 km

12. The speed of a moving body can never be
 (A) positive (B) negative
 (C) zero (D) Both (B) and (C)

12. **D**

Sol. The speed of a moving body can never be negative or zero.

13. Convert 72 km/h into m/s
 (A) 50 m/s (B) 20 m/s
 (C) 30 m/s (D) 25 m/s

13. **B**

Sol. $72 \text{ km/h} = 72 \times \frac{5}{18} \text{ m/s} = 20 \text{ m/s}$

14. Riya takes 15 minutes from her house to reach school on her bicycle with a speed of 2 m/s, the distance between her house and the school is –
 (A) 1.8 km (B) 3 km
 (C) 1 km (D) 2.5 km

14. **A**

Sol. Distance = speed × time

15. Two children start at one end of street (origin) run to other end, then head back. On the way back Sunil is ahead of Rohit. Which statement is correct about the distances run and the displacement from the origin?
 (A) Sunil has run a greater distance and his displacement is greater than Rohit's.
 (B) Rohit has run a greater distance and his displacement is greater than Sunil's.
 (C) Sunil has run a greater distance but his displacement is less than Rohit's.
 (D) Rohit has run a greater distance but his displacement is less than Sunil's.

15. **C**

Sol. Sunil has run a greater distance but his displacement is less than Rohit's.

SECTION – III CHEMISTRY

1. Separation of fibres of cotton from its seeds is known as
 (A) weaving (B) spinning
 (C) knitting (D) ginning

1. D

2. Which soil is suitable for cotton cultivation?
 (A) Sandy soil (B) Loamy soil
 (C) Black soil (D) None of these

2. C

3. Match the column-I with column-II and select the correct option?

Column - I		Column - II	
(a)	Jute	(i)	Animal fibre
(b)	Wool	(ii)	Charkha
(c)	Spinning	(iii)	Weaving
(d)	Handlooms	(iv)	Golden fibre

(A) (a)→(iv), (b)→(i), (c)→(ii), (d)→(iii)

(A) (a)→(i), (b)→(iv), (c)→(ii), (d)→(iii)

(C) (a)→(iv), (b)→(i), (c)→(iii), (d)→(ii)

(D) (a)→(iv), (b)→(ii), (c)→(i), (d)→(iii)

3. A

4. Which of the following statements is not true regarding the process of spinning?
 (A) It increases the strength of the yarn. (B) It can be done manually or by machines
 (C) It adds more air spaces inside the fibre. (D) It converts fibre into yarn.

4. C

5. Which of the following are not natural fibres?
 (A) Wool and silk (B) Nylon and polyester
 (C) Cotton and coir (D) Jute and hemp

5. B

6. Which of the following fibres is/are obtained from fleece of certain animals?
 (A) Wool and jute (B) Silk and wool
 (C) Cotton (D) Wool

6. D

7. Which out of the following is not a property of jute fibres?
 (A) Strength (B) Biodegradability
 (C) Durability (D) Smoothness

7. D

8. Which of the following statements is not true?
 (A) A soft material can be scratched easily.
 (B) Oil mixes with water.
 (C) A soluble material disappears in water.
 (D) We should use transparent containers in kitchen.

8. B

9. Identify the object which is made up of a magnetic material?
 (A) Eraser (B) Pencil
 (C) Safety pin (D) Paper

9. C

10. Salt is _____ in water.
 (A) Soluble (B) Insoluble
 (C) Immiscible (D) Miscible
10. A
11. Which of the following substances is a poor conductor of electricity or insulator?
 (A) Copper (B) Brass
 (C) Air (D) Aluminium
11. C
12. Which of the following objects is translucent?
 (A) Metal sheet (B) Diamond
 (C) Muddy water (D) Sugar solution
12. C
13. Plastic is
 (A) a good conductor of heat (B) a good conductor of electricity
 (C) a magnetic substance (D) an insulator
13. D
14. Oil and paint when mixed with water
 (A) sink in water (B) float in water
 (C) dissolve in water (D) make a layer in the centre of water
14. B
15. Select the option that contains products obtained from coconut fibre (coir) only.
 (A) Sportswear, undergarments (B) Raincoats, gumboots
 (C) Mattresses, brushes (D) Sarees, t-shirts
15. C

**SECTION – IV
BIOLOGY**

1. Which among following is the body building food?
(A) Fats (B) Carbohydrates
(C) Proteins (D) Vitamins
1. C
2. Omnivore animals feed on:
(A) Plants only (B) Animals only
(C) Both plants & animals (D) Dead & decaying matter
2. C
3. Identify the mismatch among the following:
(A) Herb - Tulsi (B) Rhizome - Ginger
(C) Tuber - Potato (D) Bulb – Tomato
3. D
4. Energy yielding components of food:–
(A) Carbohydrate (B) Protein & vitamins
(C) Fats (D) Both A & C
4. D
5. Starch is an example of:–
(A) Mineral present in salt (B) Sugar present in fruits
(C) Protein (D) Stored food in plants
5. D
6. Pisciculture is related to:
(A) Honey Bee (B) Fish
(C) Horse (D) Ruminants
6. B
7. Salt is example of:–
(A) Mineral (B) Fat
(C) Spice (D) Proteins
7. A

8. Match the following:

Column - I		Column - II	
(a)	<i>Cuscuta</i>	(i)	Holozoic nutrition
(b)	Fungus	(ii)	Parasitic nutrition
(c)	Human	(iii)	Autrophic nutrition
(d)	Green Plants	(iv)	Saprophytic nutrition

- (A) (a - ii), (b - iv), (c - i), (d - iii) (B) (a - i), (b - ii), (c - iii), (d - iv)
(C) (a - iv), (b - iii), (c - i), (d - ii) (D) (a - iii), (b - i), (c - iv), (d - ii)
8. A
 9. Process of formation of Butter is called
(A) Churning (B) Curding
(C) Cudding (D) Baking
9. A

10. Ram went to a hotel and ordered a thali containing – Roti, Curd, Vegetables, Pulses. What according to you not lacking in the thali?

- (A) Carbohydrates (B) Proteins
(C) Vitamins (D) None of these

10. D

11. Deficiency of vitamin D causes _____.

- (A) Rickets (B) Goitre
(C) Anaemia (D) Scurvy

11. A

12. **Statement A:** A balanced diet consists of vitamins, minerals, proteins, carbohydrates, fats & essential amount of water.

Statement B: Malnutrition is a condition in which there is an imbalance between the person's food intake and necessity of the body.

- (A) Both statement A and B are true (B) Both statement A and B are false
(C) Statement A is true and B is false (D) Statement B is true and A is false

12. A

13. Deficiency of iron causes _____.

- (A) Goitre (B) Rickets
(C) Beri - Beri (D) Anaemia

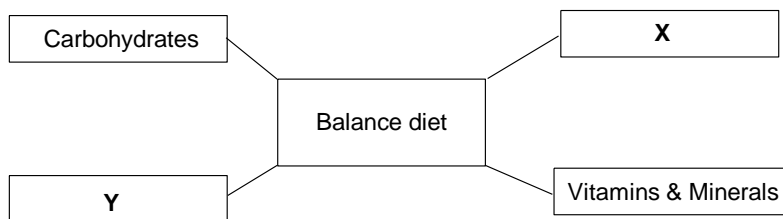
13. D

14. Vitamin A is also known as:

- (A) Retinol (B) Thiamine
(C) Folic acid (D) Ascorbic acid

14. A

15. Identify the component 'X' and 'Y' in the given flow diagram.



- (A) X - Fats, Y - Proteins (B) X - Toxin, Y - Haemoglobin
(C) X - Fats, Y - Toxin (D) X - Pigments, Y - Disease

15. A

Hints & Solutions

Bio

1. C

Sol. Proteins are the body building food.

2. C

Sol. Omnivore feeds on both plants & animals.

3. D

Sol. Tomato is fruit, not a modified stem. Onion is the example of bulb.

4. D

Sol. Energy yielding components of food Carbohydrate and fats.

5. D

Sol. Starch is an example of stored food in plants.

6. B

Sol. Pisciculture is related to fish.

7. A

Sol. Salt is example of mineral.

8. A

Sol. *Cuscuta* is parasite. Fungus feeds on dead decaying organism follows the saprophytic mode of nutrition. Green plants make their own food so they are autotrophic in nature and human depend on other organism for their food and are holozoic in nature.

9. A

Sol. Process of formation of Butter is called Churning.

10. D

Sol. Nothing is lacking in the thali, carbohydrates, proteins, vitamin present.

11. A

Sol. Rickets is caused due to the deficiency of vitamin D.

12. A

Sol. Both the provided statements are true. A balanced diet consists of vitamins, minerals, proteins, carbohydrates, fats & essential amount of water. Malnutrition is a condition in which there is an imbalance between the person's food intake & necessity of the body.

13. D

Sol. Anaemia is caused due to deficiency of iron.

14. A

Sol. Vitamin A is also known as retinol.

15. A

Sol.

