

# FIITJEE COMMON TEST

for  
Class – IX  
Batch :CFY(2024)  
ONLINE  
PHASE TEST-1  
QP CODE:

Time : 2 hours

Maximum Marks : 100

## Scholastic Aptitude Test

### **Instructions**

- The question paper consists of **100** multiple choice questions divided into five sections.  
Section – I contains **40** questions of **SST**.  
Section – II contains **20** questions of **Mathematics**.  
Section – III contains **13** questions of **Physics**.  
Section – IV contains **13** questions of **Chemistry**.  
Section – V contains **14** questions of **Biology**.
- Each question carries **+1** marks for correct answer.
- 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.

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**Name of the Candidate** : .....

**Enrollment Number** : .....

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**SECTION – I (SST)**

1. Name the capital of Andaman and Nicobar  
(A) Kavarati (B) Port Blair (C) Panji (D) Puducherry  
**1. B**
2. The state which do not have an international border  
(A) Jammu and Kashmir (B) Punjab (C) Haryana (D) Rajasthan  
**2. C**
3. From Gujrat to Arunachal Pradesh there is a time lag of  
(A) 24 hours (B) 12 hours (C) 2 hours (D) 1 hour  
**3. C**
4. Tungbhadra and Bhima rivers are the tributaries of ..... river  
(A) Mahandi (B) Krishna (C) Kaveri (D) Narmada  
**4. B**
5. What is the length of the land boundary of India ?  
(A) 5200 km (B) 15200 km (C) 45200 km (D) 52000 km  
**5. B**
6. Which one is a major river of Tamil Nadu ?  
(A) Narmada (B) Kaveri (C) Tapti (D) Krishna  
**6. B**
7. Who among the following has the final decision making power in a democracy?  
(A) Prime minister (B) President  
(C) Chief justice (D) Elected representatives  
**7. D**
8. Who led a military Coup in Pakistan in October 1999?  
(A) Nawaz Sharif (B) Pervez Musharraf  
(C) Robert Mugabe (D) None of the above  
**8. B**
9. In which one of the following countries, the vote of an indigenous has more value?  
(A) Mexico (B) Zimbabwe  
(C) Fiji (D) None of the above  
**9. C**
10. In China, the national people's Congress has the power to appoint the ..... of the country  
(A) President (B) Rules (C) Governors (D) Executives  
**10. A**
11. The worst recorded famine in world history was china's famine of  
(A) 1960-1963 (B) 1983-1986 (C) 1958-1961 (D) 1961-1964  
**11. C**

12. Which of these is permitted under the Rule of Law ?  
(A) Prime Minister can be punished for violating the Constitution  
(B) Police has a right to kill anybody  
(C) Women can be paid lesser salaries  
(D) President can rule for as long as he wants  
**12. A**
13. The standard unit of measuring agricultural land is  
(A) Hectare (B) Bigha (C) Guintha (D) All of the above  
**13. A**
14. The main reason why farmers are able to grow two or three crops in a year is due to  
(A) Persian Wheels (B) Well-developed system of irrigation  
(C) HYV seeds (D) Expansion of land Area  
**14. B**
15. On the eve of the French Revolution, France was the wealthiest, most influential and the most populous nation in Europe. Its population was approximately  
(A) 100 million (B) 50 million (C) 15 million (D) 28 million  
**15. D**
16. Who among the following reintroduced slavery in France after it was abolished by Jacobin regime ?  
(A) Louis XIV (B) Robespierre (C) Napoleon (D) Marat  
**16. C**
17. The Bastille symbolized  
(A) Benevolence of the king (B) Despotism of the king  
(C) Armed might of France (D) Prestige and power  
**17. B**
18. National Anthem of France  
(A) Vande Matram (B) Roget De Isle (C) Le Moniteur Universal (D) Marseillaise  
**18. D**
19. By whom was "Das capital" Written ?  
(A) Karl Marx (B) Robert Owen (C) Lenin (D) None  
**19. A**
20. Who was the emperor of Russia during the Russian revolution?  
(A) Nicholas I (B) Louis XVI  
(C) Nicholas II (D) None of the above  
**20. C**
21. Who led the Bolschevik group in Russia during Russian revolution?  
(A) Kerenskii (B) Leon Trotsky  
(C) Vladmir Lenin (D) Karl Marx  
**21. C**

22. Name the canal which has reduced the distance between India and Europe by 7000 Km after its construction?  
(A) Panama Canal (B) Suez Canal  
(C) Royal Canal (D) Alappuzha Canal
22. **C**
23. The 3<sup>rd</sup> largest country in terms of area of the world is  
(A) Russia (B) USA (C) Canada (D) India
23. **B**
24. What percent of the world's land area is with India ?  
(A) 0.42 % (B) 1.42% (C) 2.42% (D) 3.42%
24. **C**
25. In which state Amarkantak Comes ?  
(A) Chattisgarh (B) Madhya Pradesh (C) Uttar Pradesh (D) Maharashtra
25. **B**
26. Which of the following river forms or flows in rift valley ?  
(A) Kaveri (B) Krishna (C) Tapi (D) Tungabhadra
26. **C**
27. Which is the largest river basin in India ?  
(A) Ganga Basin (B) Brahmaputra Basin (C) Maharadi Basin (D) Godavari Basin
27. **A**
28. Which of the following statements is true about today's world ?  
(A) Monarchy as a form of government has vanished  
(B) The relationship between different countries has become more democratic than ever before  
(C) In more and more countries rulers are being elected by people  
(D) There are no more military dictators in the world
28. **C**
29. Which one of the following countries has never been under military or dictator's rule?  
(A) Mexico (B) China  
(C) Zimbabwe (D) Pakistan
29. **A**
30. The Main party of Mexico till 2000 was  
(A) PRI (B) TTI (C) IIR (D) None of these
30. **A**
31. In which country women do not have right to vote ?  
(A) United Arab Emirates (UAE) (B) Iraq  
(C) Pakistan (D) Saudi – Arabia
31. **D**
32. Robert Mugebe was the leader of  
(A) CPI-M (B) ZANU-PF (C) PRT (D) None of these
32. **B**

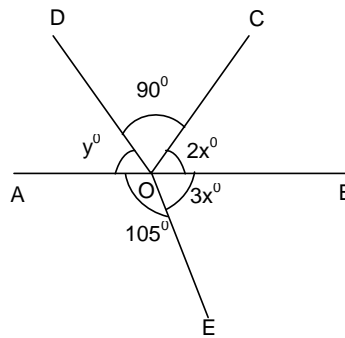
33. What is the full form of HYV ?  
(A) High yielding value (B) High yield value  
(C) High yellow varieties (D) High yielding varieties  
**33. D**
34. Milk in Palampur is sold in  
(A) Raiganj (B) Rani Ganj (C) Rampur (D) Palampur  
**34. A**
35. Guintha is a  
(A) Food (B) Crop (C) Measuring unit (D) Human capital  
**35. C**
36. Tithes was a  
(A) Tax levied by church (B) Name of currency (C) Political party (D) None of these  
**36. A**
37. What was sceptre ?  
(A) An instrument for exercise (B) Symbol of royal power  
(C) A kind of language (D) None of the above  
**37. B**
38. Russian empire in 1914 doesn't include  
(A) Protestant (B) Muslims (C) Buddhists (D) Sikhs  
**38. D**
39. What percent of population was engaged in agriculture in Russia ?  
(A) 80% (B) 85% (C) 90% (D) 60%  
**39. B**
40. What was the contribution of Louis Blanc (1813 – 1882)  
(A) To encourage capitalism (B) To encourage Cooperatives  
(C) To encourage Globalization (D) To encourage orthodox thinking  
**40. B**

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Space for rough work

**SECTION – II (MATHEMATICS)**

1. The lowest term of  $\frac{(x^2 - 1)(x + 2)(x^2 - x - 72)}{(x - 9)(x + 1)}$  is
- (A)  $(x + 1)(x - 2)(x + 8)$  (B)  $(x - 1)(x + 2)(x + 8)$   
 (C)  $(x - 1)(x - 2)(x + 8)$  (D)  $(x - 1)(x + 2)(x - 8)$
1. **B**
2. The H.C.F. of the polynomials  $(x + 1)(x^2 - 4)$  and  $(x^2 - 1)(x + 2)$  is
- (A)  $(x - 1)(x - 2)$  (B)  $(x + 1)(x - 2)$  (C)  $(x + 1)(x + 2)$  (D)  $(x - 1)(x + 2)$
2. **C**
3. The remainder when  $x^3 - 3x^2 + 2x + 1$  is divided by  $(x - 3)$  is
- (A) 4 (B) 3 (C) 7 (D) 5
3. **C**
4. In the following figure AB is a straight line. Find  $(x + y)$ :



- (A)  $55^\circ$  (B)  $65^\circ$  (C)  $75^\circ$  (D)  $80^\circ$
4. **B**
5. If  $x = 2 + \sqrt{3}$ , then  $\left(x + \frac{1}{x}\right)$  equals to
- (A)  $-2\sqrt{3}$  (B) 2 (C) 4 (D)  $4 - 2\sqrt{3}$
5. **C**
6. If  $f(x) = x^3 + px + q$  is divisible by  $x^2 + x - 2$  then the remainder when  $f(x)$  is divided by  $x + 1$  is
- (A) 4 (B) 3 (C)  $-4$  (D) 1
6. **A**
7. If  $x + y = a$  and  $xy = b$ , then the value of  $\frac{1}{x^3} + \frac{1}{y^3}$  is
- (A)  $\frac{3ab - b^3}{b^3}$  (B)  $\frac{b^3 - 3ab}{b^3}$  (C)  $\frac{a^3 - 3ab}{b^3}$  (D) none of these
7. **C**

8. If two interior angles on the same side of a transversal intersecting two parallel lines are in the ratio 2:3, then the smaller of two angles is:  
 (A)  $72^\circ$  (B)  $108^\circ$  (C)  $54^\circ$  (D)  $36^\circ$   
**8. A**
9. The rational number which equals the number  $2.\overline{357}$  with recurring decimal is  
 (A)  $\frac{2355}{1001}$  (B)  $\frac{2370}{997}$  (C)  $\frac{2355}{999}$  (D) None of these  
**9. C**
10. The value of a and b in  $\frac{3-\sqrt{5}}{3+\sqrt{5}} = a\sqrt{5} - b$  are  
 (A)  $\frac{-3}{2}, \frac{7}{2}$  (B)  $\frac{3}{2}, \frac{-7}{2}$  (C)  $\frac{-3}{2}, \frac{-7}{2}$  (D)  $\frac{3}{2}, \frac{7}{2}$   
**10. C**
11. The least number by which 432 is multiplied so that the product may be a cube number is  
 (A) 4 (B) 2 (C) 8 (D) 5  
**11. A**
12. The value of x in  $\sqrt[4]{5x+1} = 3$  is equal to  
 (A) 3 (B) 5 (C) 7 (D) 16  
**12. D**
13. The value of  $\sqrt{48} - \sqrt{72} - \sqrt{27} + 2\sqrt{18}$  is  
 (A)  $\sqrt{3}$  (B) 1 (C) -1 (D) 2  
**13. A**
14. If  $(5y + 62)^\circ, (22^\circ + y)$  are supplementary, find y:  
 (A)  $16^\circ$  (B)  $32^\circ$  (C)  $8^\circ$  (D)  $1^\circ$   
**14. A**
15.  $\sqrt[4]{81} - 8\sqrt[3]{216} + 15\sqrt[5]{32} + \sqrt{225}$  is equal to  
 (A) 10 (B) 0 (C) 1 (D) none of these  
**15. B**
16.  $(x^2 + x - 2)$  is the GCD of the expressions  $(x-1)(2x^2 + ax + 2)$  and  $(x+2)(3x^2 + bx + 1)$ . The values of 'a' and 'b' is  
 (A) 5, 4 (B) -5, 4 (C) 5, -4 (D) -5, -4  
**16. C**
17. If  $a + b + c = 0$ , then  $\frac{a^2}{bc} + \frac{b^2}{ac} + \frac{c^2}{ab} =$   
 (A) 0 (B) 1 (C) -1 (D) 3  
**17. D**

18. If  $a^{1/3} + b^{1/3} + c^{1/3} = 0$ , then

(A)  $a + b + c = 0$

(B)  $(a + b + c)^3 = 27 abc$

(C)  $a + b + c = 3abc$

(D)  $a^3 + b^3 + c^3 = 0$

18. **B**

19. If the angles of a triangle are in the ratio 2 : 3 : 4. Determine three angles

(A)  $30^\circ, 70^\circ, 80^\circ$

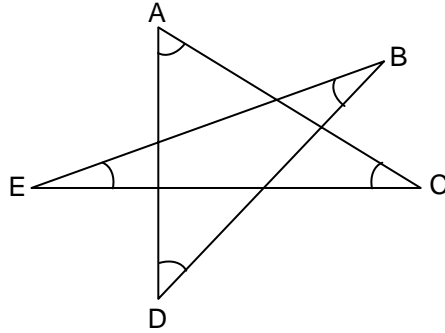
(B)  $20^\circ, 50^\circ, 110^\circ$

(C)  $40^\circ, 60^\circ, 80^\circ$

(D)  $50^\circ, 60^\circ, 70^\circ$

19. **C**

20. In the given figure,  $\angle A + \angle B + \angle C + \angle D + \angle E$  is equal to



(A)  $\frac{\pi}{2}$

(B)  $\pi$

(C)  $\frac{3\pi}{2}$

(D)  $2\pi$

20. **B**

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Space for rough work



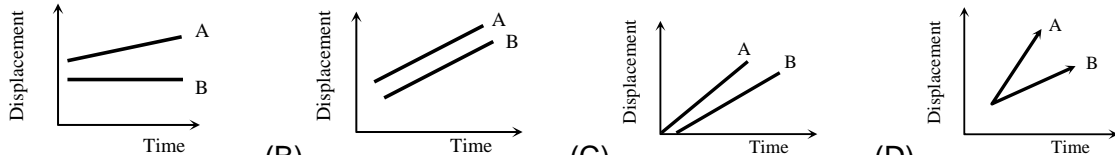
**SECTION – III (PHYSICS)**

1. An athlete completes one round of a circular track of radius  $R$  in 40 sec. What will be his displacement at the end of 2 min 40 sec?

(A) zero (B)  $2R$  (C)  $2\pi R$  (D)  $7\pi R$

1. **A**

2. Which of the following represents the displacement-time graph of two objects A and B moving with equal velocity?



(A)

(B)

(C)

(D)

2. **B**

3. A train covers the half of the distance between two stations at a speed 70 km/hr and other half at 30 km/hr. Then average speed of train is

(A) 21 km/hr (B) 50 km/hr (C) 42 km/hr (D) 100 km/hr

3. **C**

4. The magnitude of displacement is equal to the distance covered in a given interval of time if the particle

(A) Moves with constant acceleration along any path

(B) Moves with constant speed

(C) Moves with constant velocity

(D) None of these

4. **C**

5.  $B_1$ ,  $B_2$ , and  $B_3$  are three balloons ascending with velocities  $v$ ,  $2v$ , and  $3v$ , respectively. If a bomb is dropped from each when they are at the same height, then

(A) Bomb from  $B_1$  reaches ground first (B) Bomb from  $B_2$  reaches ground first

(C) Bomb from  $B_3$  reaches ground first (D) They reach the ground simultaneously

5. **A**

6. A body starts from rest and moves with a uniform acceleration then the ratio of distance covered by it during 5<sup>th</sup> second of its motion to the distance travelled in 5 second of motion is

(A)  $\frac{16}{25}$  (B)  $\frac{9}{16}$

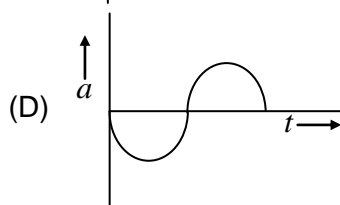
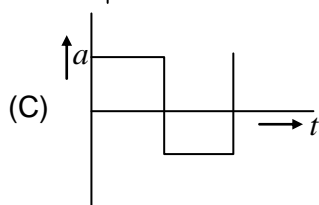
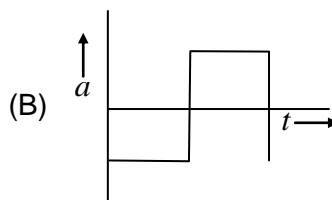
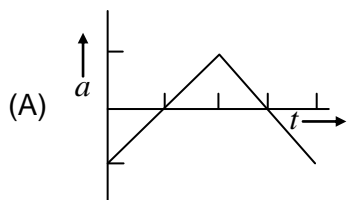
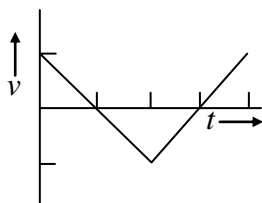
(C)  $\frac{25}{9}$  (D)  $\frac{9}{25}$

6. **D**

7. A stone is dropped from the 25<sup>th</sup> storey of a multi-storeyed building and it reaches the ground in 5s. In the first second, it passes through how many storeys of the building? ( $g = 10 \text{ m/s}^2$ )  
 (A) 1 (B) 2 (C) 3 (D) none of these

7. **A**

8. The graph given shows the velocity  $v$  versus time  $t$  for a body. Which of the following graphs shown represents the corresponding acceleration versus time graphs?



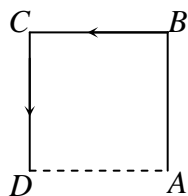
8. **B**

9. A person travels along a straight road for the first half time with a velocity  $v_1$  and the second half time with a velocity  $v_2$ . Then the mean velocity  $v$  is given by

(A)  $v = \frac{v_1 + v_2}{2}$  (B)  $\frac{2}{v} = \frac{1}{v_1} + \frac{1}{v_2}$  (C)  $v = \sqrt{v_1 v_2}$  (D)  $v = \sqrt{\frac{v_2}{v_1}}$

9. **A**

10. A particle moves along the sides  $AB$ ,  $BC$ ,  $CD$  of a square of side 25 m with a velocity of 15 m/s. Its average velocity is



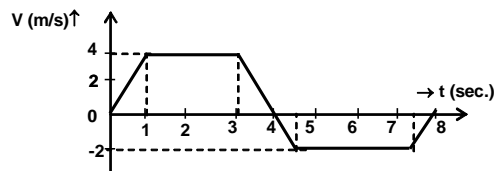
(A) 15 m/s (B) 10 m/s (C) 7.5 m/s (D) 5 m/s

10. **D**

11. In an imaginary atmosphere, the air exerts a small force  $F$  on any particle in the direction of the particle's motion. A particle of mass  $m$  projected vertically upward take a time  $t_1$  in reaching the maximum height and  $t_2$  in returning to the original point. Then
- (A)  $t_1 < t_2$   
 (B)  $t_1 > t_2$   
 (C)  $t_1 = t_2$   
 (D) The relation  $t_1$  and  $t_2$  depends on the mass of the particle.

11. **B**

12. The velocity-time graph of a linear motion is shown in figure. The displacement from the origin after 8 sec., is



- (A) 5 m                      (B) 16 m                      (C) 8 m                      (D) 6 m

12. **A**

13. During an uniform accelerated motion of a particle (initial velocity of particle is zero)
- (A) Average velocity of the particle is half its final velocity  
 (B) Average velocity of the particle is always greater than its final velocity  
 (C) Average velocity of the particle may be zero  
 (D) None of these

13. **A**

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Space for rough work

**SECTION – IV (CHEMISTRY)**

1. The quantity of matter present in an object is called its  
(A) weight (B) volume (C) mass (D) Density  
1. **C**
2. Which of the following statements is/are correct ?  
(A) Intermolecular forces of attraction in solids are maximum  
(B) Intermolecular forces of attraction in gases are minimum  
(C) Intermolecular spaces in solids are minimum  
(D) All of the above  
2. **D**
3. Which of the following is not an example of matter?  
(A) Air (B) Feeling of cold (C) Dust (D) None of these  
3. **B**
4. Which of the following is/are application(s) of high compressibility of gases ?  
(A) L.P.G. is used as fuel in homes for cooking food.  
(B) Oxygen cylinders are supplied to hospitals.  
(C) C.N.G. is used as fuel in vehicles.  
(D) All of these  
4. **D**
5. Melting & freezing point of water  
(A) are same (B) have large difference between them.  
(C) have close difference between them. (D) None of these  
5. **A**
6. S.I. unit of temperature is  
(A) Kelvin (B) Celsius (C) Both (D) None  
6. **A**
7. When a liquid starts boiling, the further heat energy which is supplied  
(A) is lost to the surrounding as such  
(B) increasing the temperature of the liquid  
(C) increases the kinetic energy of the liquid  
(D) is absorbed as latent heat of vaporisation by the liquid  
7. **D**
8. Solids cannot be compressed because  
(A) constituent particles are very closely packed  
(B) interparticle attractive forces are weak  
(C) movement of constituent particles is restricted  
(D) constituent particles diffuse very slowly  
8. **A**
9. Rate of evaporation depends upon  
(A) temperature (B) surface area (C) humidity (D) All of these  
9. **D**

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10. During evaporation of liquid  
(A) the temperature of the liquid falls.  
(B) the temperature of the liquid rises.  
(C) the temperature of the liquid remains unchanged.  
(D) all statements are wrong.
10. **A**
11. In which phenomenon water changes into water vapour below its boiling point?  
(A) Evaporation (B) Condensation  
(C) Boiling (D) No such phenomena exists
11. **A**
12. Based on the statements given here choose the correct answer.  
(1) Same sugar can be added to a full glass of water without causing overflow.  
(2) A liquid is continuous even-though space is present between the molecules.  
(A) (1) and (2) are true and (2) explains (1)  
(B) (1) and (2) are true but (2) does not explain (1)  
(C) Only (1) is true  
(D) Only (2) is true
12. **A**
13. On a hot humid day rate of evaporation  
(A) is more (B) is less  
(C) initially more, later on less (D) remains same.
13. **B**
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Space for rough work

**SECTION – V (BIOLOGY)**

1. Ribosome consist of –  
(A) DNA and protein (B) RNA and protein  
(C) RNA and amino acids (D) RNA and DNA
1. B
2. Which of the following is a feature of Meristematic tissues ?  
(A) Thin cell wall  
(B) Compact tissue  
(C) Large no. of cell organelles are present in the cells of tissues.  
(D) All of the above
2. D
3. Which chemical substance is found in wall of sclerenchyma tissue?  
(A) Lignin (B) Peptidoglycan (C) Both a and b (D) Cutin
3. A
4. Contraction and relaxation are unique features of  
(A) epithelial tissue (B) connective tissue (C) muscle tissue (D) nervous tissue
4. C
5. Which of the following tissue is a distinctive feature of the complex plants, one that has made possible their survival in the terrestrial environment?  
(A) Parenchyma (B) complex permanent tissue  
(C) Sclerenchyma (D) Meristematic tissue
5. B
6. \_\_\_\_\_ plays a crucial role in detoxifying many poisons and drugs  
(A) Rough endoplasmic reticulum (B) Lysosomes  
(C) Smooth endoplasmic reticulum (D) Mitochondria
6. C
7. A common characteristic feature of plant sieve tube cells and most of mammalian RBC is:  
(A) presence of mitochondria (B) presence of endoplasmic reticulum  
(C) presence of haemoglobin (D) absence of nucleus
7. D
8. Which cell organelle is abundantly found in white blood cells, secretory cells of liver, kidney, tadpole's tail and helps in degenerating action?  
(A) Mitochondria (B) Golgi body  
(C) Lysosome (D) Endoplasmic reticulum
8. C
9. Plastid differs from mitochondria on the basis of one of the following features. Mark the right answer.  
(A) Presence of two layers of membrane (B) Presence of ribosome  
(C) Presence of thylakoids (D) Presence of DNA

9. C
10. Cuticle is secreted by  
(A) Epidermis (B) Endodermis (C) Both (A) and (B) (D) Hypodermis
10. A
11. Electron microscope has revealed the presence of or which among the following can be seen only under electron microscope  
(A) Ribosome (B) Chromosome (C) Chloroplast (D) Leucoplast
11. A
12. Which of the following cells in plants are said to be non living?  
(A) Meristematic cells (B) Parenchyma (C) Collenchyma (D) Sclerenchyma
12. D
13. Grass stem elongates by the activity of  
(A) Primary meristem (B) Secondary meristem  
(C) Intercalary meristem (D) Apical meristem
13. C
14. Bacteria fail to survive in highly salted pickles because  
(A) Bacteria are killed by plasmolysis  
(B) Salt inhibits reproduction  
(C) Pickle does not contain necessary nutrients  
(D) Bacteria do not get enough light for photosynthesis
14. A

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Space for rough work

# **FIITJEE PHASE TEST-1**

**for**

**Class –IX**

**SET-**

**QP CODE: XXXX.0**