

**ASN Sr. Sec. School**  
Mayur Vihar-I, Delhi- 91

**Class XI**  
**HOLIDAY HOMEWORK**  
**SCIENCE**

.....  
**ENGLISH**

Collect newspaper cuttings related to given topics and paste it in your language copy

**1. Classified advertisements (Minimum 5 in each category)**

- \*Sale/Purchase of property and household items
- \*To-let and Wanted on Rent
- \*Sale/Purchase of Vehicles - Two wheelers/Four wheelers
- \*Situation Vacant and Wanted (job required)
- \*Matrimonials
- \*Missing Person/Thing/Pet

**2. Commercial/Display advertisement (Minimum 2 in each category)**

- a) Launching of a product
- b) Off Season Sale
- c) Opening of Coaching centres/Boutique/Showroom

**3. Formal Invitations (marriage/birthday /house warming ceremony etc and school function) – (one in each category)**

**4. Posters ( Social issues) – ( Minimum 1 in each category)**

Road Safety, Terrorism, Self Defence, Woman Empowerment, Environment, Consumer Awareness, Awareness about Diseases

**II. READING PROJECT**

- a) Read the unbridged version of “The Canterville Ghost” by **Oscar Wilde**
- .....

**BIOLOGY**

**THE LIVING WORLD**

- Q.1 What do you mean by biodiversity?
- Q.2 What is taxonomy?
- Q.3 Who is father of taxonomy?
- Q.4 What is systematics?
- Q.5 What is taxon?

- Q.6 What is Herbarium?
- Q.7 Name two botanical gardens.
- Q.8 Who proposed Binomial nomenclature? What do you understand by it?
- Q.9 What are the universal rules of nomenclature?
- Q.10 What are taxonomical aids? Name them.
- Q.11 What are keys? What is their importance?
- Q.12 Differentiate between natural and artificial classification?
- Q.13 What is advantage of giving scientific name to organism?
- Q.14 Give hierarchical classification of House fly.

### **BIOLOGICAL CLASSIFICATION**

- Q.1 Who proposed 5 kingdom classification?
- Q.2 What is heterocyst?
- Q.3 What is mycoplasma?
- Q.4 What are saprophytes?
- Q.5 What is alternations of generation?
- Q.6 What are Halophiles?
- Q.7 Name the components of lichen.
- Q.8 What are organisms which synthesise their own food using chemical energy known as?
- Q.9 Mark odd one out:  
Family, class, taxon, phylum
- Q.10 What are the different forms of protists? Write one feature of each.
- Q.11 To which group do bacteria belong? How have they been classified according to their shape?
- Q.12 Briefly write about reproduction in kingdom fungi?
- Q.13 Write four features of phycomycetes.
- Q.14 Give short note on Virus.
- Q.15 Differentiate between Ascomycetes and Basidiomycetes in all respects.
- Q.16 Give the features on the basis of which five kingdom classification has been based.
- Q.17 Write about the following:  
a) Cyanobacteria

b) Euglenoids

Q.18 What is the name of fully formed virus particle?

Q.19 What is the chemical nature of capsid?

Q.20 Which technical term is given to the process of sexual reproduction in paramecium?

## 1. COMPLETION OF PRACTICAL FILES

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## PHYSICS

NOTE : Write all steps of solution for each question given below.

1. The surface tension of a liquid is  $70 \text{ dyne/cm}$ . In MKS system its value is

- (a)  $70 \text{ N/m}$  (b)  $7 \times 10^{-2} \text{ N/m}$  (c)  $7 \times 10^3 \text{ N/m}$  (d)  $7 \times 10^2 \text{ N/m}$

2. The SI unit of universal gas constant ( $R$ ) is

- (a)  $\text{Watt K}^{-1} \text{mol}^{-1}$  (b)  $\text{Newton K}^{-1} \text{mol}^{-1}$  (c)  $\text{Joule K}^{-1} \text{mol}^{-1}$  (d)  $\text{Erg K}^{-1} \text{mol}^{-1}$

3. The unit of permittivity of free space  $\epsilon_0 (=q_1q_2/4\pi r^2F)$  is

- (a)  $\text{Coulomb/Newton-metre}$  (b)  $\text{Newton-metre}^2/\text{Coulomb}^2$   
(c)  $\text{Coulomb}^2/(\text{Newton-metre})^2$  (d)  $\text{Coulomb}^2/\text{Newton-metre}^2$

4. Out of the following, the only pair that does not have identical dimensions is

- (a) Angular momentum and Planck's constant (c) Work and torque  
(b) Moment of inertia and moment of a force (d) Impulse and momentum

1. The velocity of water waves  $v$  may depend upon their wavelength  $\lambda$ , the density of water  $\rho$  and the acceleration due to gravity  $g$ . The method of dimensions gives the relation between these quantities as

- (a)  $v^2 rg$  (b)  $v^2 \propto g\lambda\rho$   
(c)  $v^2 \propto g\lambda$  (d)  $v^2 \propto g^{-1}\lambda^{-3}$

2.  $E, m, l$  and  $G$  denote energy, mass, angular momentum and gravitational constant

respectively, then the dimension of  $\frac{El^2}{m^5G^2}$  are

- (a) Angle (b) Length  
(c) Mass (d) Time

3. From the equation  $\tan \theta = \frac{rg}{v^2}$ , one can obtain the angle of banking  $\theta$  for a cyclist taking a curve (the symbols have their usual meanings). Then say, it is

- (a) Both dimensionally and numerically correct (c) Dimensionally correct only

(b) Neither numerically nor dimensionally correct (d) Numerically correct only

4. A dimensionally consistent relation for the volume  $V$  of a liquid of coefficient of viscosity  $\eta$  flowing per second through a tube of radius  $r$  and length  $l$  and having a pressure difference  $P$  across its end, is

(a)  $V = \frac{\pi pr^4}{8\eta l}$  (b)  $V = \frac{\pi \eta l}{8pr^4}$

(c)  $V = \frac{8p\eta l}{\pi r^4}$  (d)  $V = \frac{\pi p \eta}{8lr^4}$

5. The velocity  $v$  (in  $cm/sec$ ) of a particle is given in terms of time  $t$  (in  $sec$ ) by the relation

$$v = at + \frac{b}{t+c}; \text{ the dimensions of } a, b \text{ and } c \text{ are}$$

(a)  $a = L^2, b = T, c = LT^2$  (b)  $a = LT^2, b = LT, c = L$  (c)  $a = LT^{-2}, b = L, c = T$

(d)  $a = L, b = LT, c = T^2$

6. From the dimensional consideration, which of the following equation is correct

(a)  $T = 2\pi \sqrt{\frac{R^3}{GM}}$  (b)  $T = 2\pi \sqrt{\frac{GM}{R^3}}$

(c)  $T = 2\pi \sqrt{\frac{GM}{R^2}}$  (d)  $T = 2\pi \sqrt{\frac{R^2}{GM}}$

7. The position of a particle at time  $t$  is given by the relation  $x(t) = \left(\frac{v_0}{\alpha}\right)(1 - e^{-\alpha t})$ , where  $v_0$  is a constant and  $\alpha > 0$ . The dimensions of  $v_0$  and  $\alpha$  are respectively

(a)  $M^0 L^1 T^{-1}$  and  $T^{-1}$  (b)  $M^0 L^1 T^0$  and  $T^{-1}$

(c)  $M^0 L^1 T^{-1}$  and  $LT^{-2}$  (d)  $M^0 L^1 T^{-1}$  and  $T$

8. The equation of state of some gases can be expressed as  $\left(P + \frac{a}{V^2}\right)(V - b) = RT$ . Here  $P$  is the pressure,  $V$  is the volume,  $T$  is the absolute temperature and  $a, b, R$  are constants. The dimensions of 'a' are

(a)  $ML^5T^{-2}$  (b)  $ML^{-1}T^{-2}$  (c)  $M^0L^3T^0$  (d)  $M^0L^6T^0$

9. The dimensions of  $\frac{a}{b}$  in the equation  $P = \frac{a-t^2}{bx}$ , where  $P$  is pressure,  $x$  is distance and  $t$  is time, are

(a)  $MT^{-2}$  (b)  $M^2LT^{-3}$  (c)  $ML^3T^{-1}$  (d)  $LT^{-3}$

10. Of the following quantities, which one has dimensions different from the remaining three

- (a) Energy per unit volume
- (b) Force per unit area
- (c) Product of voltage and charge per unit volume
- (d) Angular momentum per unit mass

11. The equation of a wave is given by

$$Y = A \sin \omega \left( \frac{x}{v} - k \right)$$

where  $\omega$  is the angular velocity and  $v$  is the linear velocity. The dimension of  $k$  is

- (a)  $LT$  (b)  $T$  (c)  $T^{-1}$  (d)  $T^2$

12. If radius of the sphere is  $(5.3 \pm 0.1)$  cm. Then percentage error in its volume will be

(a)  $3 + 6.01 \times \frac{100}{5.3}$  (b)  $\frac{1}{3} \times 0.01 \times \frac{100}{5.3}$

(c)  $\left( \frac{3 \times 0.1}{5.3} \right) \times 100$  (d)  $\frac{0.1}{5.3} \times 100$

13. The pressure on a square plate is measured by measuring the force on the plate and the length of the sides of the plate. If the maximum error in the measurement of force and length are respectively 4% and 2%, The maximum error in the measurement of pressure is

- (a) 1% (b) 2% (c) 6% (d) 8%

14. While measuring the acceleration due to gravity by a simple pendulum, a student makes a positive error of 1% in the length of the pendulum and a negative error of 3% in the value of time period. His percentage error in the measurement of  $g$  by the relation  $g = 4\pi^2(l/T^2)$  will be

- (a) 2% (b) 4% (c) 7% (d) 10%

15. The length, breadth and thickness of a block are given by  $l = 12$  cm,  $b = 6$  cm and  $t = 2.45$  cm. The volume of the block according to the idea of significant figures should be

- (a)  $1 \times 10^2$  cm<sup>3</sup> (b)  $2 \times 10^2$  cm<sup>3</sup> (c)  $1.763 \times 10^2$  cm<sup>3</sup> (d) None of these

16. Match List-I with List-II and select the correct answer by using the codes given below the lists

List-I

List-II

- |                                      |                |
|--------------------------------------|----------------|
| (a) Distance between earth and stars | 1. Microns     |
| (b) Inter-atomic distance in a solid | 2. Angstroms   |
| (c) Size of the nucleus              | 3. Light years |
| (d) Wavelength of infrared laser     | 4. Fermi       |
|                                      | 5. Kilometres  |

Codes

- |     |   |   |   |   |     |   |   |   |   |
|-----|---|---|---|---|-----|---|---|---|---|
|     | a | b | c | d |     | a | b | c | d |
| (a) | 5 | 4 | 2 | 1 | (b) | 3 | 2 | 4 | 1 |
| (c) | 5 | 2 | 4 | 3 | (d) | 3 | 4 | 1 | 2 |

17. Which is the correct unit for measuring nuclear radii

- (a) Micron (b) Millimetre (c) Angstrom (d) Fermi

18. The nuclear cross-section is measured in barn, it is equal to

- (a)  $10^{-20}$  m<sup>2</sup> (b)  $10^{-30}$  m<sup>2</sup> (c)  $10^{-28}$  m<sup>2</sup> (d)  $10^{-14}$  m<sup>2</sup>

23. What are the various drawbacks of dimensional analysis?

24. Give value of (i) Light year (ii) parsec (iii) Astronomical unit in terms of S.I. unit.

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## CHEMISTRY

PROJECTS BASED ON RESEARCH AND INNOVATION given to students (as discussed in class)

\* Team of two to three students

\* Projects should be working.

\* Use eco-friendly material.

\* Booklet/ file explaining the whole project should be prepared.

\* If required ppt presentation should be made.

**NOTE: ALL THESE PROJECTS WILL BE DISPLAYED FOR EXHIBITION IN THE MONTH OF JULY.**

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## MATHS

### LINEAR INEQUALITIES

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#### 1 mark questions

Q1. Solve the following linear inequation  $\frac{7x-8}{8x+3} > 4$

Q2. Solve the inequation  $2x-3 \geq x + \frac{1-x}{3} > \frac{2}{5}x$

Q3. Find the solution set of  $(x-1)(3-x)(x-2)^2 \leq 0$

Q4. Solve the inequation  $|4-x| > x-4$

Q5. Find the solution set of  $|3x+2| > 14$

Q6. If  $X < 5$ , then

- a)  $-x < -5$    b)  $-x \leq -5$    c)  $-x > -5$    d)  $-x \geq -5$

Q7. Given that  $x, y$  and  $b$  are real numbers and  $x < y$ ,  $b < 0$ , then

- a)  $x/b < y/b$    b)  $x/b \leq y/b$    c)  $x/b > y/b$    d)  $x/b \geq y/b$

Q8. If  $-3x+17 < -13$

- a)  $x \in (10, \infty)$    b)  $x \in [10, \infty]$    c)  $x \in (-\infty, 10]$    d)  $x \in [-10, 10)$

Q9. If  $x$  is a real number and  $|x| < 3$ , then

- a)  $x \geq 3$    b)  $-3 < x < 3$    c)  $x \leq -3$    d)  $-3 \leq x \leq 3$

Q10. If  $|x-1| > 5$ , then

- a)  $x \in (-4, 6)$    b)  $x \in [10, \infty]$    c)  $x \in (-\infty, 10]$    d)  $x \in [-10, 10)$

#### 4 marks questions

Q11. A company manufactures cassettes and its cost equation for a week is  $C = 300 + 1.5x$  and its revenue equation is  $R = 2x$ , where  $x$  is the number of cassettes sold in a week. How many cassettes must be sold for the company to realize a profit?

Q12. The water acidity in a pool is considered normal when the average pH reading of three daily measurement is between 7.2 and 7.8. if the first two pH readings are 7.48 and 7.85 find the range of pH value for third reading that will result in the actual level being normal.

Q13. Find all pairs of consecutive odd natural numbers both of which are larger than 10 and are such that their sum is smaller than 40.

## 6 marks questions

Q14. Show that the following system of linear inequalities has no solution :

$$X+2y \leq 3, 3x+4y \geq 12, x \geq 0, y \geq 1$$

Q15. A solution of 8% boric acid is to be diluted by adding 2% boric acid solution to it. The resulting mixture is to be more than 4% but less than 6% boric acid. If we have 640 litres of the 8% solution, how many litres of the 2% solution will have to be added?

Q16. m litres of acid solution contains m% acid. How many litres of acid may be added to it so that the resulting solution may have the acid content lying between 2m% and 3m%?

## SEQUENCES AND SERIES

1 mark questions

Q1. How many terms of the series 54,51,48,..... be taken so that their sum is 513?

Q2. Find the arithmetic mean between (x-y) and (x+y)?

Q3. Insert three A.M. between 3 and 19.

Q4. Which term of the G.P. 2,1,  $\frac{1}{2}$ ,  $\frac{1}{4}$ , ..... Is 128?

Q5. How many terms of the G.P. 1+4+16+64+..... will make the sum 5461?

Q6. Solve : 1+6+11+16+.....+x=148

Q7. How many terms of the G.P. 3,3/2,3/4,..... are needed to give the sum 3069/512?

4 marks questions

Q8. If the roots of  $(b-c)x^2+(c-a)x+(a-b)=0$  are equal, then prove that a ,b ,c are in A.P.

Q9. If  $a+b+c \neq 0$  and  $b+c/a$ ,  $c+a/b$ ,  $a+b/c$  are in A.P., prove that  $1/a$ ,  $1/b$ ,  $1/c$  are also in A.P.

Q10. If  $S_1$  be the sum of  $(2n+1)$  terms of an A.P. and  $S_2$  be the sum of its odd terms, then prove that  $S_1:S_2=(2n+1) : (n+1)$ .

Q11. If the sum of n terms of two arithmetic series are in the ratio  $7n+1:4n+27$ , find the ratio of their  $11^{\text{th}}$  terms.

Q12. The sum of n terms of three A.P.'s are  $S_1, S_2$  and  $S_3$ . The first term of each is unity and the common difference are 1,2 and 3 respectively. Prove that  $S_1+S_3=2S_2$ .

Q13. The sides of a right angled triangle are in A.P. Show that these are in the ratio 3:4:5.

Q14. How many terms of the G.P. 3,3/2,3/4,..... are needed to give the sum 3069/512?

Q15. Find the sum of 50 terms of the sequence 7,7.7,7.77,7.777,.....

Q16. In an increasing G.P., the sum of the first and the last term is 66. The product of the second and the last but one is 128 and the sum of the terms is 126. How many terms are there in the progression?

Q17. The first term of a G.P. is 2 and the sum to infinity is 6. Find the common ratio.

Q18. Prove that :  $3^{1/2} \cdot 3^{1/4} \cdot 3^{1/8} \dots = 3$

Q19. If  $x= 1+a+a^2+\dots$  and  $y= 1+b+b^2+\dots$ , then prove that  $1+ab+a^2b^2+\dots = xy/(x+y-1)$

Q20. Find two numbers whose arithmetic mean is 34 and geometric mean is 16.

Q21. One side of an equilateral triangle is 24cm. the mid points of its sides are joined to form another triangle whose mid points, in turn, are joined to form still another triangle. This process continues indefinitely. Find the sum of the perimeters of all the triangles.

Q22. Find two numbers whose A.M. is 34 and G.M. is 16.

Q23. Find three numbers in A.P. whose sum is 24 and whose product is 440.

Q24. Divide 32 into four parts which are in A.P. such that the products of the extremes is to the product of means is 7:15.

Q25. Find a G.P. the sum of whose first two terms is 4 and the fifth term is four times the third.

Q26. The sum of first three terms of a G.P. is 16 and the sum of the next three terms is 128.

Determine the first term and the common ratio of the G.P.

Q27. If A.M. and G.M. of two positive numbers a and b are 10 and 8 respectively, find the numbers.

Q28. If reciprocals of  $\frac{x+y}{2}$ ,  $y$ ,  $\frac{y+z}{2}$  are in A.P. show that x,y,z are in G.P.

Q29. The sum of three numbers in G.P. is 42. If the first two numbers are increased by 2 and third is decreased by 4, the resulting numbers form an A.P. find the numbers of G.P.

Q30. If a is the A.M. between b and c, and b is the G.M. between a and c, then show that  $\frac{1}{a}, \frac{1}{c}, \frac{1}{b}$  are in A.P.

Q31. If a,b,c are in A.P. and x,y,z are in G.P., then show that  $x^{b-c} \cdot y^{c-a} \cdot z^{a-b} = 1$

6 marks questions

Q32. Find the nth term of the series 1+3+7+15+31... Also find the sum to n terms.

Q33. Find three numbers which are in A.P. and whose sum is 15. If 1,4,19 be added to them respectively, the resulting numbers are in G.P. Find the numbers.

## TRIGONOMETRY

### 1 mark questions

Q1. If  $\tan A = k \tan B$ , show that  $\sin(A+B) = \frac{k+1}{k-1} \sin(A-B)$

Q2. Find the angle between the minute hand and hour hands of a clock at 8:30.

Q3. A circular wire of radius 7cm is cut and bent again into an arc of a circle of radius 12cm. Find the angle subtended by the arc at the centre in degrees.

4 mark questions

Solve the following equations

Q7.  $2\cos^2\theta + 3\sin\theta = 0$

Q8. Solve :  $\cot^2\theta + \frac{3}{\sin\theta} + 3 = 0$

Q9. Prove that:  $\sqrt{2 + \sqrt{2 + \sqrt{2 + 2\cos 8\theta}}} = 2\cos\theta$

Q10. Prove that :  $\cos 36^\circ = (\sqrt{5} + 1)/4$

Q11. The angles of a triangle are in A.P. The number of degrees in the least is to the number of radians in the greatest is  $60:\pi$ . Find the angles in degrees.

Q12. Prove that:  $\frac{\cos(90+\theta)\sec(-\theta)\tan(180-\theta)}{\sec(360-\theta)\sin(180+\theta)\cot(90-\theta)} = -1$

Q13. Prove that  $\frac{\sec 8A - 1}{\sec 4A - 1} = \frac{\tan 8A}{\tan 2A}$

Q14. Prove that:  $2\cos\frac{\pi}{13}\cos\frac{9\pi}{13} + \cos\frac{3\pi}{13} + \cos\frac{5\pi}{13} = 0$

Q15. Prove that:  $\cos^2 x + \cos^2(x + \frac{2\pi}{3}) + \cos^2(x - \frac{2\pi}{3}) = 3/2$

Q16. Prove that:  $\frac{\cos 8A \cos 5A - \cos 12A \cos 9A}{\sin 8A \cos 5A + \cos 12A \sin 9A} = \tan 4A$

Q17. Prove that:  $\sin A \sin(60^\circ - A) \sin(60^\circ + A) = \frac{1}{4} \sin 3A$

Q18. If  $\tan x = 3/4$ ,  $\pi < x < \frac{3\pi}{2}$  find the values of  $\tan \frac{x}{2}$ ,  $\sin \frac{x}{2}$ ,  $\cos \frac{x}{2}$ .

In any triangle ABC, prove that:

Q19.  $\frac{\sin(B-C)}{\sin(B+C)} = (b^2 - c^2)/a^2$

Q20.  $a \sin(B-C) + b \sin(C-A) + c \sin(A-B) = 0$

Q21.  $a^3 \sin(B-C) + b^3 \sin(C-A) + c^3 \sin(A-B) = 0$

Q22.  $\sin(\frac{B-C}{2}) = (\frac{b-c}{a}) \cos \frac{A}{2}$

Q23.  $\cos(\frac{B-C}{2}) = (b+c) \sin \frac{A}{2}$

Q24.  $(\frac{b-c}{b+c}) = \frac{\tan(\frac{B-C}{2})}{\tan(\frac{B+C}{2})}$

### 6 marks questions

Q25. Prove that:  $\cos 20^\circ \cos 40^\circ \cos 60^\circ \cos 80^\circ = 1/16$

Q26. Prove that:  $\sin 10^\circ \sin 30^\circ \sin 50^\circ \sin 70^\circ = 1/16$

Q27. Prove that:  $\cos^2 A + \cos^2(A + \frac{2\pi}{3}) + \cos^2(A - \frac{2\pi}{3}) = 3/2$

In any triangle ABC, prove that :

Q28.  $(b-c)\cot \frac{A}{2} + (c-a)\cot \frac{B}{2} + (a-b)\cot \frac{C}{2} = 0$

$$Q29. \left(\frac{b-c}{b+c}\right)\cot\frac{A}{2} = \tan\left(\frac{B-C}{2}\right)$$

$$Q30. \tan\left(\frac{A-B}{2}\right) = \left(\frac{a-b}{a+b}\right)\cot\frac{C}{2}$$

$$Q31. \tan\left(\frac{C-A}{2}\right) = \left(\frac{c-a}{c+a}\right)\cot\frac{B}{2}$$

$$Q32. (b^2-c^2)\cot A + (c^2-a^2)\cot B + (a^2-b^2)\cot C = 0$$

$$Q33. (b^2-c^2)\sin 2A/a^2 + (c^2-a^2)\sin 2B/b^2 + (a^2-b^2)\sin 2C/c^2 = 0$$

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## **COMPUTER SCIENCE**

Develop a Mobile App on any topic of your choice or relevant topic related to Climate Change/  
Safety measures to be taken to ensure Cyber Security

**Or**

Make a Movie / Documentary

**Films on science, technology, environment and health**

**Time : upto 10 minutes**

**Format- SD/HD, Aspect Ratio-16:9 25FPS**

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## **PSYCHOLOGY**

Q1) Conduct experiment on transfer of learning using mirror drawing apparatus and report it in practical file.

Q2) Choose a research topic and make a project on it.

Q3) Conduct activity on pair associate learning on 20 children of age group 10-15 and 20 adolescents of 15-20 and make a report of it.

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## **PHYSICAL EDUCATION**

Complete the unit of test and measurement in sports

1. Define test and measurement in sports.
  2. Importance of test and measurement in sports.
  3. Calculation of ( BMI) and waist hip ratio.
  4. Somato types
  5. Endomorphy
  6. Mesomorphy
  7. Ectomorphy
  8. Procedures of anthropometric measurement- height, weight, arm and leg length and skin fold.
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## ECONOMICS

### SECTION A

Q1 Define statistics as a singular sense.

Q2 What are the main features of statistics as a numerical data? Explain any four.

Q3 Define Statistics as a plural sense.

Q4 Absence of scarcity would mean absence of economics. Explain with example.

Q5 Explain the limitations of statistics.

Q6 Define Economics.

Q7 What are the limitations of Statistics?

Q8 Calculate arithmetic mean of the following frequency distribution by step deviation and short cut method.

Class	Less than 10	10-20	20-30	30-40	40-50	50-60	more than 60
Frequency	5	12	18	22	6	4	3

Q9 Calculate mean marks by all the three methods:

Marks	15	20	22	23	27	35	18
No of students	8	4	7	3	8	7	5

Q10 Calculate arithmetic mean using direct and short cut method:

20,23,34,25,62,85,15,65,75,14,24,32,19,51,72,81,93,79,38,69

Q11 Given the following data, find out median.

C.I	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60
F	50	70	100	180	150	120	70	60

Q12 Calculate median, given the following data.

Mid value	20	30	40	50	60	70
Frequency	12	25	42	46	48	50

Q13. Calculate mode of the following data.

Marks	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	29	87	181	247	263	133	40

Q14. Find out mode from the following data-

C.I.	5-10	10-15	15-20	20-25	25-30	30-35	35-40
Frequency	4	5	3	2	6	7	3

### SECTION B

Q1. Mention briefly the adverse effects of the decline of handicraft industries during colonial rule.

Q3. What were the main motives of British rulers behind the beginning of railways in India?

Q4. What was the state of development of industries in the colonial period?

Q5. Give a brief appraisal of India's demographic profile during colonial rule.

Q6. How did export surplus during British rule lead to the economic drain of the Indian wealth?

Q7. What are the objectives of planning in India?

Q8. Explain the General problems of Indian agriculture.

Q9 What are the main objectives of Public Sector?

Q10 Explain the need and types of land reforms implemented in the agriculture sector.

**SECTION -C**

- a) Name the state having highest literacy rate and lowest literacy rate.
1. Current population of India with males and females.
  2. Make a chart of Current Occupational structure of India.
  3. Name the state having highest life expectancy and lowest life expectancy.
  4. Name the country having highest and lowest per capita income.
  5. Mention Per capita income of India.

**PROJECT(20 marks)**

You are required to make a project on any topic in the following manner:

19. Prepare a questionnaire of your topic and get it filled by 10 people.
20. Classify the results
21. Present the result diagrammatically.
22. Interpret the result.