

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

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

**Commerce**

**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
- .....

**BUSINESS STUDIES**

Prepare a project on The banking System of India, Types of Bank, Functions of Commercial bank

E-Banking systems, Role of E-banking in Digital India., Development Banks of India Their role

In the economy. Banks in Rural India.

The entire project should be hand written collect proper pictures news published in the newspaper.

In about 25 to 30 pages. QUTOE few Banks like SBI, Corporation etc and Private Banks HDFC,

Kotak Mahindra. Etc. Give adequate information about these banks also.

Submission after the vacation when the school reopens.

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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:

1. Prepare a questionnaire of your topic and get it filled by 10 people.
  2. Classify the results
  3. Present the result diagrammatically.
  4. Interpret the result.
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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 :

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

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.  $1+4+16+64+\dots$  will make the sum 5461?

- Q6. Solve :  $1+6+11+16+\dots+x=148$
- Q7. How many terms of the G.P.  $3, 3/2, 3/4, \dots$  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.  $3, 3/2, 3/4, \dots$  are needed to give the sum  $3069/512$ ?
- Q15. Find the sum of 50 terms of the sequence  $7, 7.7, 7.77, 7.777, \dots$
- 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  $n^{\text{th}}$  term of the series  $1+3+7+15+31\dots$  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 :  $\cos 36 = (\sqrt{5} + 1)/4$

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

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

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

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

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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## HOME SCIENCE

Complete Practical Files and Plan two mini meals along with recipe

Write 10 recipes of Snacks in the file.

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## ACCOUNTANCY

Project One Source Document

Project Two Bank Reconciliation Statement source documents explain their meaning also prepare their format and paste their copy

1. voucher
2. cash memo
3. debit note
4. credit note
5. cheque
6. receipt
7. invoice

Bank Reconciliation Statement meaning and objectives of bank reconciliation statement reasons for the difference in the cash book and bank pass book

format of cash book and pass book

NOTE:-Must revise introduction to accounting basic accounting terms and accounting equation

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## INFORMATICS PRACTICES

Prepare a Brochure/ Pamphlet /Collage /on - "DIGITAL INDIA : eGovernance – eCommerce – eLearning"

**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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## **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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