

SANT NIRANKARI PUBLIC SCHOOL, FARIDABAD
CLASS XI (2019-20) HOLIDAYS HOMEWORK

SUBJECT - ENGLISH

NOTICES

1. An inter class drama competition is to be held in St. Stephens School, Visakapatanam. As Akash, Head Boy of the school draft a notice to be put up on the notice board inviting entries. Provide all necessary information in about 50 words.
2. You are Karan/Kanika, Secretary Cultural club of your school. Your school is organizing a Dramatics workshop during the summer Break for senior students of the school. Draft a notice for the school notice board informing the school notice board informing the students giving all relevant details.
3. You are Rudra / Ria, the Secretary of Gen X Welfare Society, Babulvadi, Guwahati. Draft a notice for all the members of the society informing them to attend a meeting to discuss the issues related to the security of the residents of the society.

ADVERTISEMENTS

1. You have cleared your IIT Entrance Exam and so want to sell off the reading material you have with you. Write an advertisement to be placed in the 'For Sale' columns of a local daily giving all details of the material you have with you in not more than 50 words. You are Mohan/Mohini. Contact No. XXXXX34367.
2. You are Principal, Patel Public School, Ashok Vihar, Delhi. Draft an advertisement for the vacant post of Maths teacher in your school to be published in the classified columns of a daily newspaper in not more than 50 words.

POSTERS

1. Design a poster to increase awareness among youth about blindness and the 'Importance of donating eyes'.
2. Water is precious and each one of us must stop wastage. Prepare a poster in not more than 50 words, for creating that awareness.
3. Draft a poster announcing a 'Book Week' being organized by the Cultural Society, Ahmedabad.

LETTERS

1. Pradeep Kumar of 25, Mount Road, Chennai has seen an advertisement for the job of Computer Engineer in a reputed Computer firm Galaxy Infotech, 112 Barakhamba Road, New Delhi and decides to apply for it. As Pradeep Kumar apply in **120-150** words for the job giving all relevant information including your biodata.
2. You are Ramesh Kumar, librarian of Aryamba Public School, Fort Road, Kochi. Write a letter in **120-150** words to Academic Book Centre, Mount Road, Chennai, placing an order for books you need for the library. Ask for a discount and a quick delivery of the order.
3. Write a letter to the Editor of a newspaper drawing the attention of the concerned authorities towards the problem of price inflation and the increase in the cost of commodities for daily use. (Within 125-150 words)
4. You are Shahid/ Shachi of B-3/230, Vivek Vihar, Delhi. Last month you bought a Samsung LED TV from Delhi Electronics, Patel Nagar. Now it is not working properly. Write a letter to the dealer complaining about it.

Subject-Hindi

ग्रीष्मावकाश गृहकार्य
कक्षा - ग्यारहवीं
विषय - हिंदी

- * 'आरोह' में पढ़ाए गए सभी पाठों को ध्यानपूर्वक पढ़ें व उनसे संबंधित प्रश्नों के उत्तर याद करें।
- * प्रार्थना पत्र, शिकायती पत्र व संपादकीय पत्रों को पढ़ें व लिखकर अभ्यास करें।
- * जनसंचार माध्यम व पत्रकारिता से संबंधित प्रश्नों के उत्तर याद करें।
- * निबंध लेखन का अभ्यास करें।
- * प्रतिदिन एक अपठित गद्यांश या पद्यांश का अभ्यास करें।

Subject - MATHEMATICS

1. Prove that $\frac{\tan A + \sec A - 1}{\tan A - \sec A + 1} = \frac{1 + \sin A}{\cos A}$
2. If $\frac{2 \sin \alpha}{1 + \cos \alpha + \sin \alpha} = y$, then prove that $\frac{1 - \cos \alpha + \sin \alpha}{1 + \sin \alpha}$ is also equal to y .
[Hint: Express $\frac{1 - \cos \alpha + \sin \alpha}{1 + \sin \alpha} = \frac{1 - \cos \alpha + \sin \alpha}{1 + \sin \alpha} \cdot \frac{1 + \cos \alpha + \sin \alpha}{1 + \cos \alpha + \sin \alpha}$]
3. If $m \sin \theta = n \sin (\theta + 2\alpha)$, then prove that $\tan (\theta + \alpha) \cot \alpha = \frac{m+n}{m-n}$
[Hint: Express $\frac{\sin (\theta + 2\alpha)}{\sin \theta} = \frac{m}{n}$ and apply componendo and dividendo]
4. If $\cos (\alpha + \beta) = \frac{4}{5}$ and $\sin (\alpha - \beta) = \frac{5}{13}$, where α lie between 0 and $\frac{\pi}{4}$, find the value of $\tan 2\alpha$ [Hint: Express $\tan 2\alpha$ as $\tan (\alpha + \beta + \alpha - \beta)$]
5. If $\tan x = \frac{b}{a}$, then find the value of $\sqrt{\frac{a+b}{a-b}} + \sqrt{\frac{a-b}{a+b}}$
6. Prove that $\cos \theta \cos \frac{\theta}{2} - \cos 3\theta \cos \frac{9\theta}{2} = \sin 7\theta \sin 8\theta$.
[Hint: Express L.H.S. = $\frac{1}{2} [2 \cos \theta \cos \frac{\theta}{2} - 2 \cos 3\theta \cos \frac{9\theta}{2}]$]
7. If $a \cos \theta + b \sin \theta = m$ and $a \sin \theta - b \cos \theta = n$, then show that $a^2 + b^2 = m^2 + n^2$
8. Find the value of $\tan 22^\circ 30'$.
[Hint: Let $\theta = 45^\circ$, use $\tan \frac{\theta}{2} = \frac{\sin \theta}{1 + \cos \theta} = \frac{2 \sin \frac{\theta}{2} \cos \frac{\theta}{2}}{2 \cos^2 \frac{\theta}{2}} = \frac{\sin \theta}{1 + \cos \theta}$]
9. Prove that $\sin 4A = 4 \sin A \cos^3 A - 4 \cos A \sin^3 A$.
10. If $\tan \theta + \sin \theta = m$ and $\tan \theta - \sin \theta = n$, then prove that $m^2 - n^2 = 4 \sin \theta \tan \theta$
[Hint: $m + n = 2 \tan \theta$, $m - n = 2 \sin \theta$, then use $m^2 - n^2 = (m + n)(m - n)$]

Trigonometric Functions

11. If $\tan(A + B) = p$, $\tan(A - B) = q$, then show that $\tan 2A = \frac{p+q}{1-pq}$
[Hint: Use $2A = (A + B) + (A - B)$]
12. If $\cos\alpha + \cos\beta = 0 = \sin\alpha + \sin\beta$, then prove that $\cos 2\alpha + \cos 2\beta = -2\cos(\alpha + \beta)$.
[Hint: $(\cos\alpha + \cos\beta)^2 - (\sin\alpha + \sin\beta)^2 = 0$]
13. If $\frac{\sin(x+y)}{\sin(x-y)} = \frac{a+b}{a-b}$, then show that $\frac{\tan x}{\tan y} = \frac{a}{b}$ [Hint: Use Componendo and Dividendo].
14. If $\tan\theta = \frac{\sin\alpha - \cos\alpha}{\sin\alpha + \cos\alpha}$, then show that $\sin\alpha + \cos\alpha = \sqrt{2} \cos\theta$.
[Hint: Express $\tan\theta = \tan(\alpha - \frac{\pi}{4}) \Rightarrow \theta = \alpha - \frac{\pi}{4}$]
15. If $\sin\theta + \cos\theta = 1$, then find the general value of θ .
16. Find the most general value of θ satisfying the equation $\tan\theta = -1$ and $\cos\theta = \frac{1}{\sqrt{2}}$.
17. If $\cot\theta + \tan\theta = 2 \operatorname{cosec}\theta$, then find the general value of θ .
18. If $2\sin^2\theta = 3\cos\theta$, where $0 \leq \theta \leq 2\pi$, then find the value of θ .
19. If $\sec x \cos 5x + 1 = 0$, where $0 < x \leq \frac{\pi}{2}$, then find the value of x .
25. If θ lies in the first quadrant and $\cos\theta = \frac{8}{17}$, then find the value of $\cos(30^\circ + \theta) + \cos(45^\circ - \theta) + \cos(120^\circ - \theta)$.
26. Find the value of the expression $\cos^4 \frac{\pi}{8} + \cos^4 \frac{3\pi}{8} + \cos^4 \frac{5\pi}{8} + \cos^4 \frac{7\pi}{8}$
[Hint: Simplify the expression to $2(\cos^4 \frac{\pi}{8} + \cos^4 \frac{3\pi}{8})$
$$= 2 \left[\left(\cos^2 \frac{\pi}{8} + \cos^2 \frac{3\pi}{8} \right)^2 - 2 \cos^2 \frac{\pi}{8} \cos^2 \frac{3\pi}{8} \right]$$
27. Find the general solution of the equation $5\cos^2\theta + 7\sin^2\theta - 6 = 0$
28. Find the general solution of the equation $\sin x - 3\sin 2x + \sin 3x = \cos x - 3\cos 2x + \cos 3x$
29. Find the general solution of the equation $(\sqrt{3} - 1) \cos\theta + (\sqrt{3} + 1) \sin\theta = 2$
[Hint: Put $\sqrt{3} - 1 = r \sin\alpha$, $\sqrt{3} + 1 = r \cos\alpha$ which gives $\tan\alpha = \tan(\frac{\pi}{4} - \frac{\pi}{6})$
 $\Rightarrow \alpha = \frac{\pi}{12}$]

34. The value of $\tan 1^\circ \tan 2^\circ \tan 3^\circ \dots \tan 89^\circ$ is
 (A) 0 (B) 1
 (C) $\frac{1}{2}$ (D) Not defined
35. The value of $\frac{1 - \tan^2 15^\circ}{1 + \tan^2 15^\circ}$ is
 (A) 1 (B) $\sqrt{3}$ (C) $\frac{\sqrt{3}}{2}$ (D) 2
36. The value of $\cos 1^\circ \cos 2^\circ \cos 3^\circ \dots \cos 179^\circ$ is
 (A) $\frac{1}{\sqrt{2}}$ (B) 0 (C) 1 (D) -1
37. If $\tan \theta = 3$ and θ lies in third quadrant, then the value of $\sin \theta$ is
 (A) $\frac{1}{\sqrt{10}}$ (B) $-\frac{1}{\sqrt{10}}$ (C) $\frac{-3}{\sqrt{10}}$ (D) $\frac{3}{\sqrt{10}}$
38. The value of $\tan 75^\circ - \cot 75^\circ$ is equal to
 (A) $2\sqrt{3}$ (B) $2 + \sqrt{3}$ (C) $2 - \sqrt{3}$ (D) 1
39. Which of the following is correct?
 (A) $\sin 1^\circ > \sin 1$ (B) $\sin 1^\circ < \sin 1$
 (C) $\sin 1^\circ = \sin 1$ (D) $\sin 1^\circ = \frac{\pi}{18^\circ} \sin 1$

[Hint: 1 radian = $\frac{180^\circ}{\pi} = 57^\circ 30'$ approx]

40. If $\tan \alpha = \frac{m}{m+1}$, $\tan \beta = \frac{1}{2m+1}$, then $\alpha + \beta$ is equal to
 (A) $\frac{\pi}{2}$ (B) $\frac{\pi}{3}$ (C) $\frac{\pi}{6}$ (D) $\frac{\pi}{4}$
41. The minimum value of $3 \cos x + 4 \sin x + 8$ is
 (A) 5 (B) 9 (C) 7 (D) 3
42. The value of $\tan 3A - \tan 2A - \tan A$ is equal to
 (A) $\tan 3A \tan 2A \tan A$
 (B) $-\tan 3A \tan 2A \tan A$
 (C) $\tan A \tan 2A - \tan 2A \tan 3A - \tan 3A \tan A$
 (D) None of these
43. The value of $\sin (45^\circ + \theta) - \cos (45^\circ - \theta)$ is
 (A) $2 \cos \theta$ (B) $2 \sin \theta$ (C) 1 (D) 0

Choose the correct answer from the given four options in the Exercises 30 to 59 (M.C.Q.).

30. If $\sin \theta + \operatorname{cosec} \theta = 2$, then $\sin^2 \theta + \operatorname{cosec}^2 \theta$ is equal to
 (A) 1 (B) 4
 (C) 2 (D) None of these
31. If $f(x) = \cos^2 x + \sec^2 x$, then
 (A) $f(x) < 1$ (B) $f(x) = 1$
 (C) $2 < f(x) < 1$ (D) $f(x) \geq 2$
 [Hint: A.M \geq G.M.]
32. If $\tan \theta = \frac{1}{2}$ and $\tan \phi = \frac{1}{3}$, then the value of $\theta + \phi$ is
 (A) $\frac{\pi}{6}$ (B) π (C) 0 (D) $\frac{\pi}{4}$

52. If $\sin \theta = \frac{-4}{5}$ and θ lies in third quadrant then the value of $\cos \frac{\theta}{2}$ is
- (A) $\frac{1}{5}$ (B) $-\frac{1}{\sqrt{10}}$ (C) $-\frac{1}{\sqrt{5}}$ (D) $\frac{1}{\sqrt{10}}$
53. Number of solutions of the equation $\tan x + \sec x = 2 \cos x$ lying in the interval $[0, 2\pi]$ is
- (A) 0 (B) 1 (C) 2 (D) 3
54. The value of $\sin \frac{\pi}{18} + \sin \frac{\pi}{9} + \sin \frac{2\pi}{9} + \sin \frac{5\pi}{18}$ is given by
- (A) $\sin \frac{7\pi}{18} + \sin \frac{4\pi}{9}$ (B) 1
- (C) $\cos \frac{\pi}{6} + \cos \frac{3\pi}{7}$ (D) $\cos \frac{\pi}{9} + \sin \frac{\pi}{9}$
55. If A lies in the second quadrant and $3 \tan A + 4 = 0$, then the value of $2 \cot A - 5 \cos A + \sin A$ is equal to
- (A) $\frac{-53}{10}$ (B) $\frac{23}{10}$ (C) $\frac{37}{10}$ (D) $\frac{7}{10}$
56. The value of $\cos^2 48^\circ - \sin^2 12^\circ$ is
- (A) $\frac{\sqrt{5}+1}{8}$ (B) $\frac{\sqrt{5}-1}{8}$
- (C) $\frac{\sqrt{5}+1}{5}$ (D) $\frac{\sqrt{5}+1}{2\sqrt{2}}$
- [Hint: Use $\cos^2 A - \sin^2 B = \cos(A+B) \cos(A-B)$]
57. If $\tan \alpha = \frac{1}{7}$, $\tan \beta = \frac{1}{3}$, then $\cos 2\alpha$ is equal to
- (A) $\sin 2\beta$ (B) $\sin 4\beta$ (C) $\sin 3\beta$ (D) $\cos 2\beta$
58. If $\tan \theta = \frac{a}{b}$, then $b \cos 2\theta + a \sin 2\theta$ is equal to
- (A) a (B) b (C) $\frac{a}{b}$ (D) None
59. If for real values of x , $\cos \theta = x + \frac{1}{x}$, then
- (A) θ is an acute angle (B) θ is right angle
- (C) θ is an obtuse angle (D) No value of θ is possible

Subject- Accountancy

1. Revise theory of L. 1 and 2 thoroughly

2. Do the assignment given below in your Homework notebook

Q1) Journalise the following transactions:

- 1) Sold goods for Rs.10,000.
- 2) Sold goods to Sachin for Rs.20,000.
- 3) Sold goods to Amit for Rs.30,000 and payment made by cheque.
- 4) Sold goods to Atul of the list price of Rs.30,000 at a trade discount of 10%.
- 5) Sold goods to Sunil of the list price of Rs.1,25,000 less 20% trade discount and received a cheque under a cash discount of 2%.

- 6) Sold goods to Sahil of the list price of Rs.1,25,000 less 20% trade discount and 2% cash discount and paid 40% by cheque.

- 7) Sold goods costing Rs.40,000 to Anita for cash at a profit of 25% on cost less 20% trade discount and charged 8% sales tax and paid cartage Rs.100 (not to be charged from customer)

- 8) Sold goods costing Rs.40,000 to Anil at a profit of 20% on sales less 20% trade discount and charged 8% sales tax and paid cartage Rs.100(to be charged from customer)

- 9) Sachin rejected and returned 10% of goods.

- 10) Bought goods of the list price of Rs.2,50,000 from Mohan less 20% trade discount and 2% cash discount and paid 40% by cheque.

- 11) Purchased machinery from Rajiv for Rs.5,000 and paid him by means of a bank draft purchased from bank for Rs.5020.

- 12) Paid rent of building Rs.12,000. Half of the building is used by the proprietor for residential use.

- 13) Paid life insurance premium Rs.2,000.

- 14) Charge depreciation on furniture @10% p.a. for one month(furniture Rs.12,000).

- 15) Provide interest on capital (Rs.60,000) at 15% p.a. for six months.

- 16) Charge interest on drawings (Rs.10,000) at 18% p.a. for six months.

- 17) Brokerage due to us Rs.500.

18) Proprietor withdrew for private use Rs.1,000 from office and Rs.800 from bank.

19) Purchased a cow for business Rs.20,000.

20) Paid Rs.250 in cash as wages on installation of a machinery.

Q 2) Pass the opening entry in the journal of Ram(as on 1st April 2011)

Rs.

Cash in hand : 1,000

Cash at Bank: 5,000

Stock: 20,000

Land and building: 1,00,000

Plant and machinery: 50,000

Furniture and fixtures: 25,000

Q 3) Show the accounting equation on the basis of the following transactions:

a) Shri Ganesh commenced business with cash Rs.35,000, goods Rs.8,000 and furniture Rs.7,000.

b) Bought furniture from M/s Mohan Furnitures on credit for Rs.3,000.

c) Purchased goods from Sohan for cash Rs.35,000.

d) Sold goods to Shyam for cash Rs.40,000(costing Rs.30,000).

e) Bought goods from Ramesh Rs.30,000.

f) Sold goods to Shyam costing Rs.30,000 for Rs.50,000.

g) Received Rs.49,500 from Shyam in full settlement.

h) Paid Rs.29,700 to Ramesh in full settlement.

i) Paid half the amount owed to M/s Mohan.

j) Withdrew Rs.1,000 for personal use.

k) Withdrew goods for personal use(cost Rs.500, sale price Rs.600).

l) Purchased household goods for Rs.15,000 giving Rs.5,000 in cash and the balance through a loan.

m) Paid cash Rs.500 for loan and Rs.300 for interest.

n) Goods destroyed by fire (cost Rs.500, sale price Rs.600)

o) Paid salary Rs.500 and salary outstanding Rs.100.

p) Paid rent in advance Rs.2,000.

q) Accrued interest Rs 500.

r) Commission received in advance Rs 1,000.

s) Charged depreciation of Rs 400 on furniture.

Q 4) Give an example for each of the following types of transactions:

a) Increase in one asset, decrease in another asset.

b) Increase in asset, increase in liability.

c) Increase in asset, increase in owner's capital.

d) Decrease in asset, decrease in liability.

e) Decrease in asset, decrease in owner's capital.

f) Increase in one liability, decrease in another liability.

g) Increase in liability, decrease in owner's capital.

h) Decrease in liability, increase in owner's capital.

Subject- Business Studies

Revise chapter 1 and 2 thoroughly

Do the following assignments in your Business studies notebook

Assignment-1

- 1 How is it that a single man business has not been entirely obsolete even under modern conditions of trade and industry? Discuss.
- 2 Can a minor become the member of a joint hindu family business?
- 3 Explain the advantages and limitations of joint hindu family business.
- 4 Can a minor be admitted as a partner in a firm ?
- 5 Write the effects of non registration of a partnership firm .
- 6 If registration is optional, why do partnership firms willingly go through this legal formality and get themselves registered ? Explain.
- 7 Explain the various kinds of partners in partnership firm.
- 8 Explain how a cooperative organization is a democratic institution.
- 9 Explain how the company is an artificial person.
- 10 How is a company effected by oligarchic management.
- 11 Distinguish between private company and public company.

Assignment-2

- 1 Write the meaning of code of conduct in profession.
- 2 Write four characteristics of business.
- 3 Define profession .
- 4 What are the objectives of business.
- 5 Name the components of tertiary industry.
- 6 What is Entreport?
- 7 What do you understand by commerce? Explain its components.
- 8 What is business risk ? What is its nature?
- 9 Explain the auxiliaries to trade.

Subject- Economics

1. Statistics for economics- T.R.Jain complete exercise of Ch- Measures of central tendency mean / median and mode
2. Prepare a scrap book from any English newspaper on daily basis on economic matters.

Subject – IP (Informatics Practices)

Do the following assignment:

- 1- What is a Computer?
- 2- Write any two characteristics and limitations of Computer?
- 3- Briefly explain the applications of computer in the field of banking and library?
- 4- Difference between RAM and ROM?
- 5- What is the need of secondary memory?
- 6- What do you mean by the statement- **Computer work diligently?**
- 7- Write the full form of EPROM, EEPROM, SRAM and DRAM?
- 8- Write short notes on
 - (i) Blog
 - (ii) Wikis
- 9-What are the basic organizations of a Computer system?
- 10-Mention three components of CPU?
- 11-What are the major strength of a computer? Name them.
- 12-Name two types of primary memory?
- 13- Give a real life example of RAM and ROM?
- 14- Which unit is used to measure the speed of a processor?
- 15-Name a storage device that is a part of secondary memory?
- 16- Which is the smallest unit of the memory?
- 17- What is the full form of BIOS?

18- Name any two processor (Chip) manufacturing companies?

19- Give any three examples of input and output devices?

20- Long answer type questions:

(i) Explain any two limitations and characteristics of computer?

(ii) How are computers used in the field of research and education?

(iii) How are computers used in the field of sports and military?

(iv) Explain the importance of computers in the government sector and Law enforcement?

(v) What are the applications of computers in engineering field?

(vi) Difference between primary and secondary memory?

(vii) What is CPU and explain different parts of CPU?

Basics

1. What is an expression?
2. What is a syntax error?
3. What is identifier naming rules?
4. What does a interpreter do?
5. What is the result of this expression: "*" * 10
6. What is Python Tokens?
7. What are various datatypes used in Python?
8. What are operators and precedence?

Q.2) Do the following assignment of Python:

Primitive Types

1. What is a variable?
2. What are the primitive built-in types in Python?
3. When should we use `"""` (triple quotes) to define strings?
4. Assuming `(name = "Paritosh")`, what does `name[1]` return?
5. What about `name[-2]`?
6. What about `name[1:-1]`?
7. How to get the length of `name`?
8. What are the escape sequences in Python?
9. What is the result of `f"{2+2}+{10%3}"`?
10. Given `(name = "Paritosh Srivastava")`, what will `name.title()` return?
11. What does `name.strip()` do?

Control Flow

1. What is the difference between `10 / 3` and `10 // 3`?
2. What is the result of `10 ** 3`?
3. Given `(x = 1)`, what will be the value of `x` after we run `(x += 2)`?
4. How can we round a number?
5. What is the result of `float(1)`?
6. What is the result of `bool("False")`?
7. What are the falsy values in Python?
8. What is the result of `10 == "10"`?
9. What is the result of `"bag" > "apple"`?
10. What is the result of `not(True or False)`?
11. Under what circumstances does the expression `18 <= age < 65` evaluate to `True`?
12. What does `range(1, 10, 2)` return?
13. Name 3 iterable objects in Python.