

CLASS XI
Holiday Homework (2018-19)
Somerville School, Vasundhara Enclave, Delhi-96
(Commerce Stream- XI B & C)

English

1. Read a novel: Prepare a chart and speak about the author and the novel.
2. Watch an English Film of your choice and present a short review. Include the name of the lead actors, directors, etc and a brief plot summary.
Mention what you liked/ disliked about the film. (Speaking Skills Activity)

Accountancy

COMPREHENSIVE PROJECT BASED ON CBSE GUIDELINES:

TOPICS:

Source Documents - Cash Memo, Invoice, Vouchers, Types of Cheques issued, Debit Note, Credit Note, Accounting Vouchers Debit and Credit Voucher

Business Studies

Comprehensive Project based on Cbse guidelines:

Topic:

Visit to a Small Business Enterprise (Sole Proprietorship or Partnership firm) to understand the nature and characteristic of Business, Risk, Problems, Form and Growth of the business.

Economics

Prepare a project based on CBSE guidelines.

Suggested topics are-

1. Production possibility curve
2. Demand/Supply and its determinants
3. Production Function: Returns to a factor
4. Cost function and cost curves
5. Monopoly or perfect competition or monopolistic competition or oligopoly forms of market.

6. Price Floor and Price Ceiling
7. Study of Milk cooperatives (Amul, Mother dairy)
8. Changing consumer awareness amongst households
9. Global warming

Any other relevant topic such as HDI, GST, SHG, Dis-investment policy etc.

The project report should include : Title , Index , Introduction of the theme , Elaboration, Conclusion , Credits / List of resources used / Bibliography

Mathematics

Q.1: If A is the void set ϕ then $P(A)$ has just one element ϕ that is $P(\phi) = \{ \phi \}$, show that

$$n\{P\{P\{P(P(\phi))\}\} = 4$$

Q.2: Express $2 \cos 4x \sin 2x$ as an algebraic sum of sines and cosines.

Q.3: Show that:

$$\left. \begin{array}{l} \sin^2 \theta = \sin^2 \alpha \\ \cos^2 \theta = \cos^2 \alpha \\ \tan^2 \theta = \tan^2 \alpha \\ \cot^2 \theta = \cot^2 \alpha \\ \sec^2 \theta = \sec^2 \alpha \\ \operatorname{cosec}^2 \theta = \operatorname{cosec}^2 \alpha \end{array} \right\} = \cos 2\theta = \cos 2\alpha$$

Now find general solution of $\cos 2\theta = \cos 2\alpha$

$$[\text{Ans : } \theta = n\pi \pm \alpha]$$

Q.4: Show that $\tan 9^\circ - \tan 27^\circ - \tan 63^\circ + \tan 81^\circ = 4$

Q.5: The angles of a triangle are in the ratio 3: 4: 5. Find the smallest angle in degree and greatest in radian.

$$\left[\text{Ans : } 45^\circ, \frac{5\pi}{12} \text{ radians} \right]$$

Q.6: The distance of the moon from the earth is 38400 km . The angle of elevation moon on the earth through the eye of observer is $31'$ (31 minute). Find the diameter of the moon.

Hint:

[∵ *angle is very small* ⇒ *Length of chord* =

length of arc or *length of diameter* = *Length of arc*.) $[\theta = \frac{l}{r}]$

$$\left[\text{Ans: } 3464 \frac{8}{63} \right]$$

Q.7: In a survey of 700 students in a college, 180 were listed as drinking Limca, 275 as drinking Mirinda and 95 were listed as both drinking Limca and Mirinda. Find how many students were drinking neither Limca nor Mirinda? [Ans: 340]

Q.8: If A and B are two sets such that $n(A \cup B) = 50$, $n(A) = 28$ and $n(B) = 32$, find $n(A \cap B)$. [Ans: 10]

Q.9: In a school there are 20 teachers who teach mathematics or physics. Of these, 12 teach mathematics and 4 teach physics and mathematics. How many teach physics? [Ans: 12]

Q.10: Let A and B be two sets such that: $n(A) = 20$, $n(A \cup B) = 42$ and $n(A \cap B) = 4$. Find :

(i) $n(B)$ [Ans: 26] (ii) $n(A - B)$ [Ans: 16] (iii) $n(B - A)$ [Ans: 22]

Q.11: A survey shows that 63% of the Americans like cheese, whereas 76% like apples. If $x\%$ of the Americans like both cheese and apples, find the value of x . [Ans: $39 \leq x \leq 63$]

Q.12: In a survey it was found that 21 persons liked product P_1 , 26 liked product P_2 and 29 liked product P_3 . If 14 persons liked product P_1 and P_2 ; 12 persons liked product P_3 and P_1 ; 14 persons liked product P_2 and P_3 and 8 liked all the three products. Find how many liked product P_3 only. [Ans: 11]

Q.13: In a survey of 100 students, the number of students studying various languages were found to be: English only 18, English but not Hindi 23, English and Sanskrit 8, English 26, Sanskrit 48, Sanskrit and Hindi 8, no language 24. Find:

(i) How many students were studying Hindi? [Ans: 18]

(ii) How many students were studying English and Hindi? [Ans: 3]

Q.14: In a school, there are an equal number of male and female teachers. If the total salary of the male members is sine of the number of male members and total salary of the female members is cosine of the number of female members. Represent the information in trigonometric form, if the total salary of all the teachers is Rs. 2,25,000. What value do you derive from this information? [Ans: $\sin x + \cos y = \text{Rs. } 2,25,000$; Since sine increases and cosine decreases from 0° to 90° , therefore, male teachers are earning more than female teachers. Article 14 of Indian Constitution bars discrimination only on the ground of sex.]

Q.15: Let A and B be two sets such that $n(A) = 5$ and $n(B) = 2$. If a, b, c, d, e are distinct and $(a, 2), (b, 3), (c, 2), (d, 3), (e, 2)$ are in $A \times B$, find A and B . [Ans: $A = \{a, b, c, d, e\}$ and $B = \{2, 3\}$]

Q.16: Find the domain and range of the following functions:

(i) $f(x) = x^2$ [Ans: $R: [0, \infty)$]

(ii) $f(x) = \frac{3-x}{x-3}$ [Ans: $R - \{3\}; \{-1\}$]

(iii) $f(x) = \frac{x^2-1}{x-1}$ [Ans: $R - \{1\}; R - \{2\}$]

(iv) $f(x) = \sqrt{9-x^2}$ [Ans: $[-3, 3]; [0, 3]$]

(v) $f(x) = \frac{|x-3|}{x-3}$ [Ans: $R - \{3\}; \{-1, 1\}$]

(vi) $f(x) = \frac{1}{2 - \sin 3x}$ [Ans: $R; \left[\frac{1}{3}, 1\right]$]

Political Science

A. The recently concluded **Karnataka Assembly Elections 2018** were hotly contested. Many parties were in the fray and the results have been declared. Analyse this election and submit a project report by answering the following:

1. Analyze the importance of elections in a democratic country.
2. Profile the difference between General Elections and Assembly elections.
3. Name the parties that contested the Karnataka elections and their symbols (list National and Regional both)

4. Slogans used and highlights of their campaigns
5. Discuss the controversial and contentious issues that have been a part of the recent elections.
6. Analysis of result with help of pie chart.

General Instructions:

1. It should be well researched and pictorial.
2. The project must have a table of contents.
3. Title page, acknowledgements, headings and sub-headings are a must.
4. Take a print(B&W) if project is presented as a ppt.
5. It must include relevant news clippings.

B. Read and revise the following chapters:

Chapter 1 – **Constitution why and how** – Functions of the constitution, Three factors for effective constitution, how the constitution was made, objective resolution, provisions borrowed from different constitutions, philosophy of the constitution.

Chapter 2 – **Rights in the Indian constitution** – Fundamental rights, NHRC, Directive Principles of State policy, Fundamental duties.

Chapter 1- **Introduction to the Political Theory**- Meaning of politics, need for Political theory, why should we study it?

C. Read the **newspaper daily**, especially the editorial page.

Applied Art

Q1. Describe the historical as well as artistic aspects of the following sculptures

- a) Male Torso
- b) Dancing Girl
- c) Mother Goddess

Q2. Explain the compositional aspects of rock painting

- a) ‘Wizards Dance’
- b) Roaring Animal of Bhambetka

Q3. How have the paintings of prehistoric time helped us to understand the daily life activities and the state of mind of the people of that time? Explain with suitable example.

Q4. What are the aesthetical values found in the

- a) Earthenware of Indus Valley civilization.
- b) Unicorn bull of seals found in IVC
