DAV PUBLIC SCHOOL

SRESHTHA VIHAR, DELHI

HOLIDAYS HOMEWORK

CLASS-XII

ENGLISH

1. "My Children, this is the last lesson I shall give you, 'What was the impact of M.Hamel's words on the assembled class? And Why?
2. See how it is! Everyday we have said to ourselves, 'Bah! I've plenty of time, I'll learn it tomorrow '. As head boy/girl of your school you decide to address the students in the morning assembly telling them about the importance of making the optimum use of their time and the importance of not delaying things that need to be done. You wish to stress the fact that the time is a valuable resource which if used well will benefit not just the individual but society as a whole. Write the speech in about 100 words.
3. 'When I sense a flash of it in Mukesh I am cheered'. What is this a reference to and why does it make the writer happy?
4. What forces conspire to keep the workers in the bangle industry of Firozabad in poverty?
5. Explain the significance of the title 'Lost Spring'.
6. 'It takes longer to build a school'. 'Education is simply the soul of the society as it passes from one person to another' G.K.Chesterton. Saheb exemplifies the plight of the street children who are forced into labour at an early age and are denied the opportunity of schooling. Write an article for your school magazine in about 100 words, talking about the virtues of a literate society urging young people to take on the onus of educating at least one or two children.
7. The narrative 'Deep Water' by William Douglas is a saga of perseverance and courage. Elucidate.
8. How did the instructor make Douglas a good swimmer?
9. Write an article on how school has helped you to develop your core skills i.e. creativity, collaboration, communication, critical thinking and leadership.

* Prepare for your II unit test.*

MATHS

CHAPTER: INVERSE TRIGONOMETRIC FUNCTIONS

1 Mark Questions

1. Write the value of $\tan\left(\frac{1}{2}\cos^{-1}\frac{2}{\sqrt{5}}\right)$
2. Write the value of $\sin^{-1}(\sin\frac{7\pi}{3})$.
3. Find the value of $\sec^2(\tan^{-1}2)+\operatorname{cosec}^2(\cot^{-1}3)$
4. If $\sin^{-1}x+\sin^{-1}y+\sin^{-1}z=\frac{3\pi}{2}$, find the value of $x+y+z$.

2 Marks Questions

5. Find the values of x which satisfy the equation $\sin^{-1}x+\sin^{-1}(1-x)=\cos^{-1}x$.
6. Find the value of the expression $\tan\left(\tan^{-1}5+\cot^{-1}\frac{1}{3}\right)$
7. Solve the equation $\sin^{-1}6x+\sin^{-1}6\sqrt{3}x=-(\pi/2)$.
8. Find the smallest range of values of x for which $\tan^{-1}\left(\frac{\cos x}{1+\sin x}\right)=\frac{\pi}{4}-\frac{x}{2}$
9. Show that $\tan^{-1}1+\tan^{-1}2+\tan^{-1}3=\pi$.
10. Prove that $\cos[\tan^{-1}\{\sin(\cot^{-1}x)\}]=\sqrt{\frac{1+x^2}{2+x^2}}$

4 Marks Questions

11. If $\cot^{-1}(\sqrt{\cos\alpha})-\tan^{-1}(\sqrt{\cos\alpha})=x$ then show that $\sin x=\tan^2\frac{\alpha}{2}$
12. If $\cot^{-1}7+\cot^{-1}8+\cot^{-1}18=\cot^{-1}n$. Find 'n'
13. Show that : $\tan^{-1}\left(\frac{\sqrt{1+\cos x}+\sqrt{1-\cos x}}{\sqrt{1+\cos x}-\sqrt{1-\cos x}}\right)=\frac{\pi}{4}+\frac{x}{2}$
14. Prove that $\tan(\frac{\pi}{4}+\frac{1}{2}\cos^{-1}\frac{a}{b})+\tan(\frac{\pi}{4}-\frac{1}{2}\cos^{-1}\frac{a}{b})=\frac{2b}{a}$
15. Solve the equation $\sin^{-1}\frac{2x}{5}+\sin^{-1}\frac{4x}{5}=\sin^{-1}x$.

6 Marks Questions

16. If $\cos^{-1}\frac{x}{a}+\cos^{-1}\frac{y}{b}=\alpha$, prove that $\frac{x^2}{a^2}-2\frac{xy}{ab}\cos\alpha+\frac{y^2}{b^2}=\sin^2\alpha$
17. If $a_1, a_2, a_3, \ldots a_n$ is an arithmetic progression with common difference d, then evaluate the following expression.
18. $\tan[\{\tan^{-1}[d/(1+a_1a_2)]+\tan^{-1}[d/(1+a_2a_3)]+\tan^{-1}[\{d/(1+a_3a_4)\}]+\ldots+\tan^{-1}[d/(1+a_{n-1}a_n)]]$
19. Prove that $\tan^{-1}\left(\frac{\sqrt{1+x^2}+\sqrt{1-x^2}}{\sqrt{1+x^2}-\sqrt{1-x^2}}\right)=\frac{\pi}{4}+\frac{1}{2}\cos^{-1}x^2$
20. Show that $2\tan^{-1}[\tan\frac{\alpha}{2}\tan(\frac{\pi}{4}-\frac{\beta}{2})]=\tan^{-1}\frac{\sin\alpha\cos\beta}{\cos\alpha+\cos\beta}$
21. If $(\tan^{-1}x)^2+(\cot^{-1}x)^2=\frac{5\pi^2}{8}$, then find x.
22. Find the greatest and least values of $(\sin^{-1}x)^2+(\cos^{-1}x)^2$.

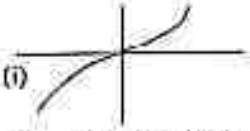
Answers:

Q.1 1. $\sqrt{5}$ 2. $\pi/3$ 3. 15 4. 3 5. $x=0$ or $1/2$ 6. $-\tan^{-1}(8/7)$ 7. $X=-(1/12)$ 8. $x\in(-\pi/2, 3\pi/2)$ 12. $\cot^{-1}3$ 15. $x=0,1,-1$ 16. $(a_4-a_3)/(1+a_3a_4)$ 21. $x=-1$ 22. $\frac{5\pi^2}{4}$ and $\frac{\pi^2}{8}$

CHAPTER: RELATIONS AND FUNCTIONS

1 Mark Questions

1. Which of the following graphs represent function and one-one function:-

(i)  (ii)  (iii)  (iv) 

2. Let A = {1, 2, 3, 4} and R_1 = {(1, 1), (2, 2), (3, 3), (2, 3), (3, 2)} ; R_2 = {(2, 2), (3, 3), (4, 4), (1,1)} ; R_3 = {(1, 4), (3, 2)} ; R_4 = {(2, 4), (4, 2), (4, 4)}. Which of these relations are reflexive, symmetric, and transitive?

3. Determine whether Relation R in the set A = {1, 2, 3, ..., 10} defined as R = {(x, y) : 2x – y = 10}, is reflexive, symmetric and transitive.

4. If N is the set of natural numbers & A = {0, 1},then prove that $f: N \to A$ defined by f(2x) = 0 and f(2x + 1) = 1, $\forall\ x \in N$ is a many-one onto function

5. Determine whether or not each of the operation • given below gives a binary operation , Justify your answer.

(i) On Z', $a \bullet b = a - b + 5$. (ii) On Q, defined by $a \bullet b = \frac{a+b}{3}$ (iii) On $R - \{-1\}$, $a \bullet b = \frac{a}{b+1}$

2 Marks Questions

6. If A = {1, -1, 2, -2} and B = {2, 5, 7}, then show that $f: A \to B$ defined by $f(x) = x^2 + 1$ is neither one-one nor onto function.

7. If A = {1, 3, 5}, B = {2, 4, 6}. Then find all possible one-one functions from A to B.

8. $f: R \to R$ is defined by f(x) = 2x + 7. Prove that f is a bijection. Also find the inverse of f.

9. Let the functions f and g be given by f = {(1, -1), (2, -4), (3, -9)} and g = {(-1, 3), (-4, 7), (-9, 11)}. Show that gof is defined while fog is not defined. Also find gof.

10. Let $f: Z \to Z$ defined by f(x) = x + 2. Find $g: Z \to Z$ such that gof = I_z.

11. Let S = {1, 2, 3}. Determine whether the functions $f: S \to S$ defined as below have inverse. Find f^{-1} if it exists.

(i) f = {(1, 2), (2, 1), (3, 1)} (ii) f = {(1, 3), (3, 2), (2, 1)} (iii) f = {(1, 1), (2, 2), (3, 3)}

12. Let $f: N \to R$ be a function defined as $f(x) = 4x^2 + 12x + 15$. Show that $f: N \to$ range f is invertible. Find the inverse of f.

13. Consider $f: N \to N$, $g: N \to N$ and $h: N \to R$ defined as f(x) = 2x , g(y) = 3y + 4 and h(z) = sin z, $\forall$ x, y, $z \in N$. Show that ho(gof) = (hog)of.

14. Is $f(x) = \frac{x}{x+1}$ invertible in its domain. If so, find f^{-1}. Also, verify that $fof^{-1}(x) = x$.

15. If g(x) is the inverse of a function f(x) and $f'(x) = \frac{1}{1+x^5}$, then find g' (x).

4 Marks Questions

16. Let • be a binary operation on Z defined by $a \bullet b = a + b - 4$ for all $a, b \in Z$

(i) Show that '•' is both commutative and associative.

(ii) Find the identity element in Z. (iii) Find the invertible elements in Z.

17. Let A = N × N and let '•' be a binary operation on A defined by (a, b) • (c, d) = (ac, bd), show that

(i) $(A, \cdot)$ is associative (ii) $(A, \cdot)$ is commutative.
Find the identity element if any in A.

18. Let A= {1,2,3,.....9} and R be the relation in A x A defined by (a, b) R (c, d) if a + d = b + c for (a, b), (c, d) in A x A . Prove that R is an equivalence relation. Also obtain the equivalence class [(2, 5)].

19. Let A= $\{x \in Z: 0 \le x \le 12\}$. Show that R = $\{(a,b) : a, b \in A, |a-b| \text{ is divisible by } 4\}$ is an equivalence relation. Find the set of all elements related to 1. Also write the equivalence class [2]. CBSE 2018

6 Marks Questions

20. On the set {0,1,2,3, 4,5,6}, a binary operation $\cdot$ is defined as

$$a \cdot b = \begin{cases} a+b & \text{if } a+b < 7 \\ a+b-7 & \text{if } a+b \ge 7 \end{cases}$$

Write the operation table of the operation $\cdot$ and prove that zero is the identity for this operation and each element $a \neq 0$ of the set is invertible with 7-a being the inverse of a.

21. Let A = Q × Q, where Q is the set of all rational numbers, and $\cdot$ be a binary operation on A defined by $(a,b) \cdot (c,d) = (ac, b + ad)$ for $(a,b), (c,d) \in A$. Then find (i) the identity element of $\cdot$ A, (ii) invertible elements of A, and hence write the inverse of elements (5, 3) and $(\frac{1}{2}, 4)$.

22. A binary operation $\cdot$ is defined on the set $X = R - \{1\}$ by $x \cdot y = x - y + xy, \forall x,y \in X$. Check whether $\cdot$ is commutative and associative. Find the identity element and also find the inverse of each element of X.

23. Show that the function $f: R \to R$ defined by $f(x) = \frac{x}{x^2+1}$, for all $x \in R$ is neither one-one nor onto. Also, if $g: R \to R$ is defined as $g(x) = 2x-1$, find fog(x). CBSE 2018

24. Let N denote the set of all natural numbers and R be the relation on N × N defined by (a, b) R (c, d) if ad (b + c) = bc (a + d). Show that R is an equivalence relation.

25. If the function $f: R \to R$ be defined by $f(x) = 2x - 3$ and $g: R \to R$ by $g(x) = x^3 + 5$, then show that fog is invertible. Also find $(fog)^{-1}(x)$, hence find $(fog)^{-1}(9)$.

ANSWERS

1. (i) one-one (ii) not one-one (iii) not one-one (iv) not function
2. Reflexive: R_2 ; Symmetric : R_1, R_3, R_4 ; Transitive : R_2, R_3, R_4.
3. Neither reflexive nor symmetric nor transitive. 5. (i) No (ii) yes (iii) No
7. {(1,2), (3, 4), (5, 6)}, {(1, 2), (3, 6), (5, 4)}, {(1, 4), (3, 2), (5, 6)}, {(1, 4), (3, 6), (5, 2)}, {(1, 6), (3, 2), (5, 4)}, {(1, 6), (3, 4), (5, 2)}
8. $\frac{x-7}{2}$ 9. gof = {(1, 3), (2, 7), (3, 11)} 10. $g(x) = x - 2$
11. (i) does not exist (ii) {(3, 1), (2, 3), (1, 2)} (iii) {(1, 1), (2, 2), (3, 3)} 12. $f^{-1}(x) = \frac{\sqrt{x-6}-3}{2}$
14. $\frac{x}{1-x}$ 15. $1 + [g(x)]^3$
16. (ii) 4 (iii) All elements in Z are invertible; inverse of a is 8 − a 17. (1, 1)
18. [(2, 5)] = {(1, 4), (2, 5), (3 , 6), (4, 7), (5, 8), (6, 9)}. 19. {1,5,9} , {2,6,10}.
21. Identity element (1,0) inverse element $(\frac{1}{a}, -\frac{b}{a})$ inverse elements are $(\frac{1}{5}, \frac{-2}{5})$, (2,-8).
22. Not commutative, not associative, identity element = 0, inverse element = $\frac{a}{1-a}$.
23. $\frac{2x-1}{4x^2-4x+2}$ 25. $\sqrt[3]{\frac{x-7}{2}}$, 1

UNIT: CONTINUITY AND DIFFERENTIABILITY
CLASS XII

1 Mark Questions

1. If $f(x) = |\cos x|$, find $f'\left(\frac{3\pi}{4}\right)$.
2. If $y = \sec^{-1}\left(\frac{\sqrt{x}+1}{\sqrt{x}-1}\right) + \sin^{-1}\left(\frac{\sqrt{x}-1}{\sqrt{x}+1}\right)$, find $\frac{dy}{dx}$.
3. If $y = \sec(\tan^{-1}x)$, then find dy/dx.
4. If $y = 1 - \frac{x}{1!} + \frac{x^2}{2!} - \frac{x^3}{3!} + \ldots\ldots$, then write $\frac{d^2y}{d^2x}$ in terms of y.
5. If $f(1)=4$, $f'(1)=2$ find the value of the derivative of $\log(f(e^x))$ with respect to x at the point $x = 0$.
6. Find the second order derivative of $\tan^{-1}x$.
7. Find the value of 'c' prescribed by L.M.V. theorem for the function $f(x) = \sqrt{x^2 - 4}$ defined on $[2, 3]$.

2 Marks Questions

1. If $y = \tan^{-1}x$, find $\frac{d^2y}{dx^2}$ in terms of y.
2. Find the number of points at which the function $f(x) = \frac{1}{x - [x]}$ is not continuous.
3. If $f(x) = |\cos x - \sin x|$, find $f'\left(\frac{\pi}{6}\right)$.
4. Let $f(x) = x|x|$, for all $x \in R$. Discuss the derivability of f(x) at $x = 0$.
5. Given $f(x) = \frac{1}{x-1}$, find the points of discontinuity of the composite function $y = f[f(x)]$.
6. Differentiate: $\log_x 5$ w.r.t. x.
7. Differentiate : 3^{x^2} with respect to x^3.
8. If $y = 3x|x|$, find $\frac{dy}{dx}$ for $x > 0$.
9. Find the derivative w.r.t x :

   a) $y = \cos^{-1}\left(\frac{3x+4\sqrt{1-x^2}}{5}\right)$ b) $y = \sin^{-1}\left[x\sqrt{1-x} - \sqrt{x}\sqrt{1-x^2}\right]$ and $0 < x < 1$, c) $y = \cos^{-1}\left(\frac{2^{x+1}}{1+4^x}\right)$

4 Marks Questions

1. If $y = (1+x)(1+x^2)(1+x^4)(1+x^8)\ldots(1+x^{2^n})$, find $\frac{d^2y}{dx^2}$.
2. Verify LMV for the function $f(x) = \sin x - \sin 2x$ in $[0, \pi]$.
3. Let C be a curve defined parametrically as $x = \cos^3 t$, $y = \sin^3 t$, $t \in [0, \frac{\pi}{2}]$. Determine a point 'p' on C, where the tangent to C is parallel to the chord joining the points (a,0) & (0,a).
4. If $ax^2+2hxy+by^2+2gx+2fy+c=0$, then show that $\left(\frac{dy}{dx}\right)\cdot\left(\frac{dx}{dy}\right) = 1$.

5. In the following, determine the value(s) of constant(s) involved so that the given function is continuous :

a) $f(x) = \begin{cases} \frac{2^{x+2}-16}{4^x-16} & , \text{if } x \neq 2 \\ p & , \text{if } x = 2. \end{cases}$

b) $f(x) = \begin{cases} \frac{\tan x - \sin x}{x^3} & , \text{if } x > 0 \\ a \sin\frac{\pi}{2}(x+1) & , \text{if } x \leq 0 \end{cases}$

c) $f(x) = \begin{cases} \frac{1-\sin^3 x}{3\cos^2 x} & , \text{if } x < \frac{\pi}{2} \\ a & , \text{if } x = \frac{\pi}{2} \\ \frac{b(1-\sin x)}{(\pi-2x)^2} & , \text{if } x > \frac{\pi}{2} \end{cases}$

d) $f(x) = \begin{cases} \frac{\sin(a+1)x + \sin x}{x} & , x < 0 \\ c & , x = 0 \\ \frac{\sqrt{x+bx^2}-\sqrt{x}}{bx^{\frac{3}{2}}} & , x > 0 \end{cases}$

e) $f(x) = \begin{cases} \frac{1-\cos 4x}{x^2} & , \text{if } x < 0 \\ a & , \text{if } x = 0 \\ \frac{b\sqrt{x}}{\sqrt{(625+\sqrt{x})} - 25} & , \text{if } x > 0 \end{cases}$

f) $f(x) = \begin{cases} \frac{\sin 3x}{\tan 2x} & , \text{if } x < 0 \\ a & , \text{if } x = 0 \\ \frac{b\log(1+3x)}{e^{2x}-1} & , \text{if } x > 0 \end{cases}$

6. Show that the function f defined as follow, is continuous at x=2, but not differentiable there at :

$$f(x) = \begin{cases} 3x-2 & , \text{if } 0 < x \leq 1 \\ 2x^2 - x & , \text{if } 1 < x \leq 2 \\ 5x-4 & , \text{if } x > 2. \end{cases}$$

7. If $x^y = e^{x-y}$, prove that $\frac{dy}{dx} = \frac{\log x}{(1+\log x)^2}$

8. If $x^{16} y^9 = (x^2 + y)$, prove that $\frac{dy}{dx} = \frac{2y}{x}$.

9. If $x = e^{\frac{x}{y}}$, prove that that $\frac{dy}{dx} = \frac{x-y}{x\log x}$.

10. If $y = x^{x^{x^{\cdots\infty}}}$, then prove that $x\frac{dy}{dx} = \frac{y^2}{1-y\log x}$.

11. If $x = a \sin 2t\,(1 + \cos 2t)$ and $y = b \cos 2t\,(1 - \cos 2t)$, show that $\frac{dy}{dx} = \frac{b}{a}$ at $t = \frac{\pi}{4}$.

12. If $\sqrt{1-x^2} + \sqrt{1-y^2} = a(x-y)$, prove that $\frac{dy}{dx} = \sqrt{\frac{1-y^2}{1-x^2}}$

13. If $y = e^{a\cos^{-1}x}$ $-1 \leq x \leq 1$, prove that $(1-x^2)\frac{d^2y}{dx^2} - x\frac{dy}{dx} - a^2y = 0$

14. If $y = \log\left[x + \sqrt{x^2+1}\right]$, prove that $(1+x^2)\frac{d^2y}{dx^2} + x\frac{dy}{dx} = 0$.

15. If $y = x \log\left(\frac{x}{a+bx}\right)$, prove that $\frac{d^2y}{dx^2} = \frac{1}{x}\left(\frac{a}{a+bx}\right)^2$.

16. If $x = \tan\left[\frac{1}{a}\log y\right]$, show that $(1+x^2)\frac{d^2y}{dx^2} + (2x-a)\frac{dy}{dx} = 0$.

17. If $a^x + b^y = a^{x+y}$, $(a > 0)$, prove that $\frac{dy}{dx} + a^{y-x} = 0$.

18. Prove that $\frac{d}{dx}\left[\frac{x}{2}\sqrt{a^2-x^2}+\frac{a^2}{2}\sin^{-1}\frac{x}{a}\right]=\sqrt{a^2-x^2}$

6 Marks Questions

1. Find the value of 'p' and 'q' so that $f(x)=\begin{cases}x^2+3x+p, & \text{if } x\le 1\\ qx+2, & \text{if } x>1\end{cases}$ is differentiable at x = 1.

2. If $x=\frac{\sin^3 t}{\sqrt{\cos 2t}}$, $y=\frac{\cos^3 t}{\sqrt{\cos 2t}}$, show that $\frac{dy}{dx}=-\cot 3t$.

3. Show that the function f given by $f(x)=\begin{cases}\frac{e^{1/x}-1}{e^{1/x}+1}, & \text{if } x\neq 0\\ 0, & \text{if } x=0\end{cases}$ is discontinuous at x = 0.

4. Find all points of discontinuity of the function $f(x)=\frac{1}{x^2+x-2}$, where $x=\frac{1}{1-k}$

5. If x = sin t and y = sin pt, then prove that $(1-x^2)\frac{d^2y}{dx^2}-x\frac{dy}{dx}+p^2y=0$.

6. Discuss the applicability of Rolle's theorem for the function $f(x)=\begin{cases}x^2+1, & 0\le x\le 1\\ 3-x, & 1<x\le 2\end{cases}$.

7. Show that $f(x)=|x+1|+|x-2|$ is continuous at x = -1 and 2 but not differentiable at x = -1 and 2.

8. If the function $f(x)=ax^3+bx^2+11x-6$ satisfies conditions of Rolle's Theorem in [1, 3] and $f'\left(2+\frac{1}{\sqrt{3}}\right)=0$, then

Find the value of a and b.

Answers

(1 Mark)

1. $\frac{1}{\sqrt{2}}$ 2. 0 3. $\frac{x}{\sqrt{1+x^2}}$ 4. y 5. 1/2 6. $-2x/(1+x^2)^2$ 7. $\sqrt{5}$

(2 Marks)

1. $(-2\sin y\cos^3 y)$ 2. at all integral points 3. $\left[-\frac{1}{2}(1+\sqrt{3})\right]$ 4. f is differentiable at x = 0 5. x = 1, x = 2

6. $\left[-\frac{\log 5}{x(\log x)^2}\right]$ 7. $\left[\frac{2.3^{x^2}\log 3}{9x^2}\right]$ 8. 6x 9. (a) $\frac{dy}{dx}=\frac{1}{\sqrt{1-x^2}}$ (b) $\frac{dy}{dx}=\frac{1}{\sqrt{(1-x^2)}}-\frac{1}{\sqrt{(1-x)}}\frac{1}{2\sqrt{x}}$ (c) $\frac{dy}{dx}=\frac{2^{x+1}\log 2}{1+4^x}$

(4 Marks)

1. $\frac{2}{1-x}\left[\frac{(1-x^{4x})}{1-x}-\frac{4nx^{4n-1}}{1-x}\right]-\frac{4n(4n-1)x^{4n-2}}{1-x}$ 3. $\left(\frac{a}{2\sqrt{2}},\frac{a}{2\sqrt{2}}\right)$ 5. (a) p = 1/2 (b) a = ½ (c) a = 1/2, b = 4

(d) a = -3/2, c = 1/2, b = all real values excepting 0 (e) a = 8, b = 8/50 (f) a = 3/2, b = 1.

(6 Marks)

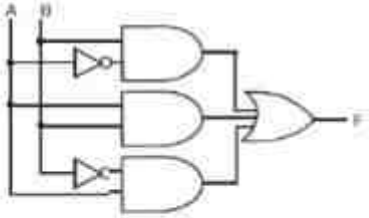
1. p = 3, q = 5 (use the continuity of the function) 4. -2, 1 6. Not differential at x = 1 8. a = 1, b = -6

COMPUTER SCIENCE

Fill the Google form: http://bit.ly/2Qp0GPq

BOOLEAN ALGEBRA

1. State and prove Associative law algebraically.
2. Draw logic circuit diagram for Absorption Law.
3. Write the equivalent Boolean Expression F for the following circuit diagram :



4. Convert the following Boolean expression into its equivalent Canonical Sum of Product Form({SOP)

   (X'+Y+Z').(X'+Y+Z).(X'+Y'+Z).(X'+Y'+Z')

5. Express the **F(X,Z)=X+X'Z** into canonical SOP form.
6. Write the Product of Sum form of the function F(X, Y, Z) for the following truth table representation of F :

X	Y	Z	F(X,Y,Z)
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	1

7. Prove that **(a'+b')(a'+b)(a+b')=a'b'.**
8. A Boolean function F defined on three input variable X,Y,Z is 1 if and only if the number of 1(One) input is even (e.g. F is 1 if X=1,Y=0,Z=1). Draw the truth table for the above function and express it in canonical sum of product form.
9. Reduce the following boolean expression using K-Map

   F(A,B,C,D) = ∑(5,6,7,8,9,12,13,14,15)

10. If ***F(a,b,c,d)=π(0,2,4,5,7,8,10,12,13,15)*** obtain the simplified form using K-Map.

CLASSES AND OBJECTS

1. Write the output of the following program:

```
#include< iostream.h>
class height
{
        int feet,inches;
        public:
        void getht(int f,int i)
        {
                feet=f;
                inches=i;
        }
        void putheight()
        {
                cout< < "\nHeight is:"< < feet< < "feet\t"< < inches< < "inches"< < endl;
```

```
    }
    void sum(height a,height b)
    {
        height n;
        n.feet = a.feet + b.feet;
        n.inches = a.inches + b.inches;
        if(n.inches ==12)
        {
            n.feet++;
            n.inches = n.inches -12;
        }
        cout< < endl< < "Height is "< < n.feet< < " feet and "< < n.inches< < endl;
    }
};
void main()
{
    height h,d,a;
    clrscr( );
    h.getht(6,5);
    a.getht(2,7);
    h.putheight( );
    a.putheight( );
    d.sum(h,a);
}
```

2. Define a class HOTEL in C++ with the following description:

Private Members

Rno //Data Member to store Room No
Name //Data Member to store customer Name
Tariff //Data Member to store per day charge
NOD //Data Member to store Number of days
CALC //A function to calculate and return amount as NOD*Tariff and if the value of NOD*Tariff is more than 10000 then as 1.05*NOD*Tariff

Public Members:

- Checkin( ) //A function to enter the content RNo,Name, Tariff and NOD
- Checkout() //A function to display Rno, Name, Tariff, NOD and Amount (Amount to be displayed by calling function CALC( )

3. Declare a class **myfolder** with the following specification :

private members

- Filenames – an array of strings of size[10][25](to represent all the names of files inside myfolder)
- Availspace – long (to represent total number of bytes available in myfolder)
- Usedspace – long (to represent total number of bytes used in myfolder)

public members of the class

- Newfileentry( ) – A function to accept values of Filenames, Availspace and Usedspace fromuser
- Retavailspace( ) – A Fucntion that returns the value of total Kilobytes available (1 Kilobytes = 1024 bytes)
- Showfiles( ) – a function that displays the names of all the files in myfolder

BIOLOGY

1. If a double stranded DNA has 40% guanine calculate the % of adenine in the DNA.

2. Which property of base pair sequences is exploited and applied in genetic engineering and biotechnology?

3. Why do RNA viruses have high evolution rate?

4. Amino acid Arginine is coded by CGU; how many codons can code for this amino acid?

5. Write the full form of the terms: 'ESTs' and 'SA' concerning to human genome project.

6. What is the difference between RNAs and RNase ?

7. What kind of inheritance is seen in haemophilia?

8. What is parthenogenesis? Explain the ploidy of queen, worker and drone honey bee.

9. Which of the following are analogous organs?

a) Legs of Cockroach and legs of Cat.

b) Pectoral fin of fish and forelimb of a frog.

10. Wing of bat is homologous to

a) Arm of a human

b) Tail of a kangaroo

c) Wing of a butterfly

11. What is 'saltation?'

12. What is 'Founder effect'?

13. Name the common ancestors of Apes and Man.

14.Match the following experiments & conclusions with respective worker.

a. Transforming Principle	i) Meselson & Stahl
b. DNA is genetic material	ii) Watson & Crick
c. Semi conservative mode of DNA replication	iii) Fredrick Griffth
d. Proof of semi conservative replication	iv) Hershey & Chase

15. Colour blindness is a recessive trait. A couple with normal vision has two sons, One colour blind and one with normal vision. If the couple also has daughters what Proportion of them will have normal vision?

CHEMISTRY

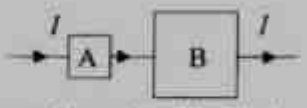
1. In deep sea diving, why the condition "the bends" occur?
2. How is the molarity different from the normality? Why molality is considered better for expressing the concentration as compared to molarity?
3. Why "Anoxia" occurs at high altitudes?
4. What is the similarity between Raoult's law and Henry's Law.
5. What are azeotropes?
6. What are anti-freeze solutions? Give one example.
7. Why common salt is used to clear the snow on the roads?
8. What is Van't Hoff factor? Give its value for solutes undergoing association and dissociation in solution.
9. What is Henry's law? Give its 2 limitations.
10. Differentiate Ideal and Non-ideal solutions.
11. What is relative lowering in vapour pressure? Which out of lowering in V.P. and relative lowering in V.P, is a colligative property?
12. How elevation in boiling point is a colligative property? Explain.
13. Addition of 1.286 g of a compound to 100 ml. of benzene (density 0.879 g/ml) lowers the freezing point from 5.51^{o}C to 5.03^{0}C. If K_f for benzene is 5.12 K kg/mol, calculate the molar mass of the compound?
14. Non-ideal solutions show positive and negative deviations from Raoult's law. What are these deviations and why they are caused?
15. Solubility of alcohols in water decreases with increase in molecular mass of the alcohol. Why?
16. Why primary alcohols are the strongest acids and tertiary the weakest?

17. What is coupling reaction? Explain with chemical equation.
18. Give 2 uses of ethanol/methanol.
19. Why boiling points of ethers are much lower than those of the isomeric alcohols?
20. How will you distinguish between 1- phenylethanol and 2- phenylethanol. Give reaction for the test.
21. Write the chemical equation for the preparation of Ethoxybenzene.
22. Why do phenols not give protonation reactions readily?
23. What is 'rectified spirit' and 'absolute alcohol'.
24. (i) Explain how will you distinguish between primary, secondary and tertiary alcohols.
    (ii) How will you know whether a given OH group is alcoholic or phenolic in nature!
25. How will you synthesis' salicylic acid from phenol?
26. Why are Grignard reagents soluble in ether but not in benzene?
27. Describe the 'Kolbe's reaction'.
28. Discuss the electrophillic substitution reactions in aromatic ethers.
29. Why alcohols act both as nucleophiles as well as electrophiles while phenols usually act as nucleophiles only? Show the reaction for both.
30. Phenols are stronger acid than alcohols. Explain.
31. (i) Sodium metal can be used for drying diethyl ether, but not for an alcohol.
    (ii) How will you convert chlorobenzene to picric acid.

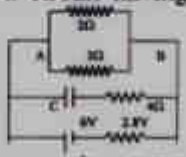
Numaricals on Combination of Resistance

By : Sachin Sir

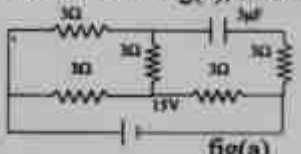
1. Two square metal plates A and B Are of same thickness and material. The side of B is twice that of A. These are connected in series as shown in Fig. Find the ratio R_A / R_B of the resistance of the two plates. [1:1]



2. Three conductors of conductance G_1, G_2 and G_3 are connected in series. Find their equivalent conductance.
3. The lengths and radii of three wires of same metal are in the ratio 2:3:4 and 3:4:5 respectively. They are joined in parallel and included in a circuit having 5 A current. Find current in each wire. [1.40A, 1.66 A, 1.94 A]
4. Calculate the steady-state current through 2Ω resistor of the battery is negligible and C = 2μF [0.9 A]



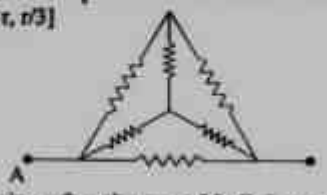
5. In the circuit in fig(a), find the potential difference across the capacitor. [12V]

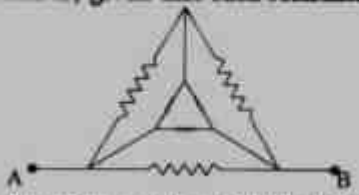


fig(a)

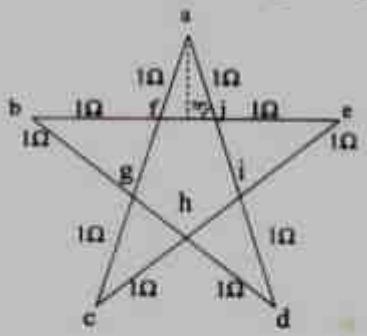
fig(b)

6. Find the equivalent resistance between the points A and B of the network as shown in the figure (b).[5/3Ω]
7. Find the equivalent resistance between A and B, given that each resistance is 'r'. [0.5 r, r/3]

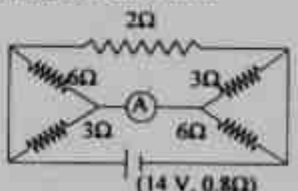




8. A wire of resistance 32 Ω is melted and drawn into a wire of half of its original length. Calculate the resistance of the new wire. What is the percentage change in resistance? [8Ω, 75%(decrease)]
9. Fig shows five pointed regular star made from a uniform regular wire. (a) What is the resistance of *fj* arm? (b) What is the resistance of *fbgf* branch? (c) What is the resistance of *afbgch* branch? (d) what is the equivalent resistance between *a* and *h*? Given : cos 72° =0.31. [(a) 0.62 Ω, (b) 0.47Ω, (c) 1.94Ω, (d) 0.97Ω]

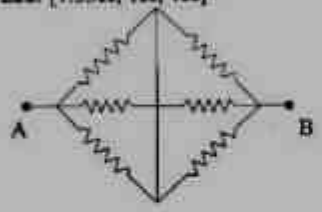


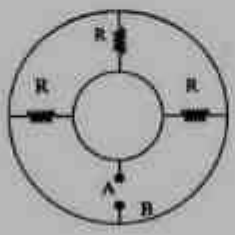
10. What is the reading of ammeter shown in Fig.

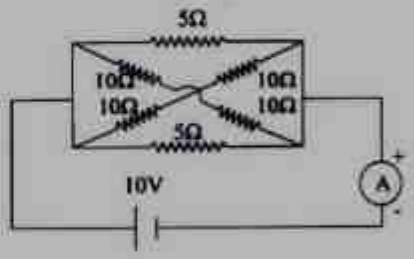


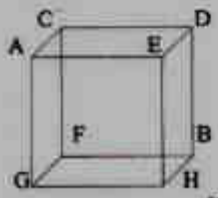
[2.18A]

11. Calculate the equivalent resistance between points A and B. Each resistance is of 2Ω. [1.33Ω, 1Ω, 1Ω]



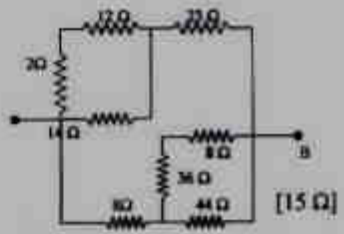






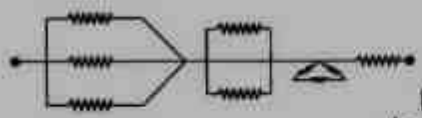
[5/6R]

[2R]

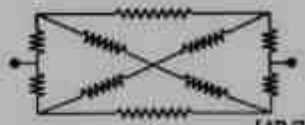


[15 Ω]

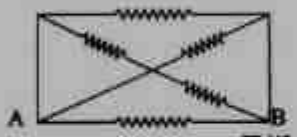
- All resistances are of value 'R'



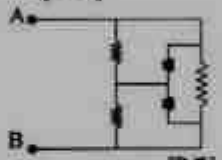
[4R/3]



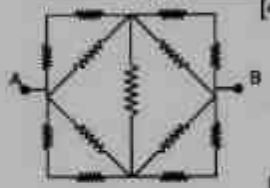
[4R/3]



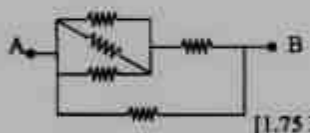
[R/4]



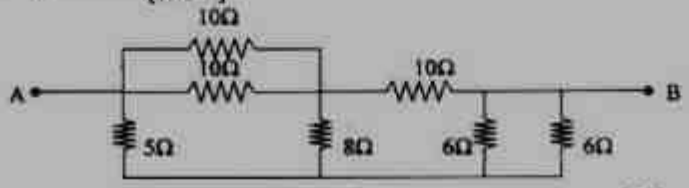
[R/2]



[2R/3]



[1.75 R]



[4Ω]

BUSINESS STUDIES

Project Work:

Make **1 Project File** on any of the following topics

1) Elements of Business environment
2) Principles of Management
3) Marketing Management
4) Stock Exchange

Select 1 suitable topics for your project work as per CBSE guidelines. Please refer to CBSE website www.cbse.nic.in for further guidance. Project will be evaluated on the basis of

i Initiative, Cooperativeness and Participation

i Creativity in Presentation

i Content, observation and research work

i Analysis of situation

v Viva

Attempt the following Questions/Case Studies:

Q.1 Raman agreed to be an employee of a company on the condition that he will be given a project offering competitive salary, career advancement opportunity, promotion and recognition. Mr. John, (General Manager) puts Raman in a project in which promotion is not possible. Raman gets disheartened and feels frustrated all the time. Such frustration also reflected in his work and he could not bring desired results.

(A) Which objective of management Raman could not achieve? Explain.

(B) Identify the other two objectives?

(C) What should Mr. John do to avoid such problems?

Q.2Daksh Ltd. has the following organization structure. On the top level is Managing Director of the company Mr. NARESH. He has four departments to manage – Purchase, Sales, Production, and Human Resource. Mr. Naresh decided that all departments ought to prepare their own plans and set objectives. As a result, no department was aware of the plans of the other departments. The purchase department made over-purchases and production department over-produced goods which was not accepted by sales department and hence some goods remain unsold. Sales department itself could not work properly as

Human Resource department could not supply right no. of employees to them. As a result, there was utter chaos and the organization could not function properly.

(A) Which aspect of management is not being considered above? Name and explain it.

(B) What is the solution to the problem?

Q.3Ram Kishan is the owner of the shoe manufacturing factory. He follows the traditional practice of fixing standard time of work based on his own past experiences. He could not match the supply wuth demand for shoes produced in his factory. His son Shyam – MBA from IIM joined business and suggested to fix the standard time by analysing the work scientifically. The production increased and supply could not match the demand.

(A) Which principle of scientific management of Taylor is to be considered in above case?

(B) What does it state?

Q.4Tasty Slices is a chain of stores making pizzas, located at different states. The store has divided the whole process of making pizzas into small tasks or units. Instead of assigning the whole job of making pizza to one employee, different employees are given the task of making pizza bases, preparing toppings, baking of pizza, packaging etc. As a result, each employee has gained perfection and specialization in his job and improved his efficiency and effectiveness.

(A) Which principle of Fayol is followed by Tasty Slices? How does it prove useful to Tasty Slices?

(B) Explain the principle underlying in the above case?

Q.5 Lupin Ltd. A business enterprise has shown interest in scanning its business environment for the purpose of planning and policy making. It goes through various dimensions of business environment and comes up with the following findings:

(A) The govt. is encouraging NRIs and foreign investors to invest in Indian companies.

(B) There would be improvement in the quality of life of people.

(C) The ruling party is encouraging the foreign companies in the country.

(D) A law has been passed in the parliament relating to delicencing policy on industries.

(E) Procedure for import and export of technology has been simplified .

Q 6 The top management of Manto Ltd. is engaged in organizational planning. It does not involve middle and supervisory level of management. These two levels of management are

neither allowed to deviate from plans nor are they permitted to act on their own. they keep thinking along the same lines as others so that nothing new or innovative gets added to process.

(a) Which limitation of planning is reflected in the above case?

(b) What remedial step will Manto Ltd. take to overcome this limitation ?

Q 7 Zinc Ltd. has to develop its organizational plan for the coming year . For this purpose, the company hires professionals from U.K . A lot of money is incurred on their fees, collection of facts and figures and surveys etc. This whole process of planning has already proved to be very costly affair and the eventual total cost may exceed the gains expected from the plan.

(a) Should Zinc Ltd. continue with existing planning? why?

(b) Which limitation of planning is reflected in this case?

Q 8 Aman, Avneesh and Ambrish have decided to start a business of manufacturing toys . They identified the following main activities which they have to perform :

(i) Purchase of raw material

(ii) Purchase of machinery

(iii) Arrangement of finance

(iv) Production of toys

(v) Sale of toys

(vi) Identifying the areas where they can sell their toys

(vii) Selection of employees

In order to facilitate the work they thought that four managers should be appointed to look after (a) Production, (b) Finance, (c) Personnel

(A) Identify the function of management involved in the above mentioned para.

(B) Quote the lines from the above para which help you in identifying this function.

(C) state the step followed in the process of management.

Q 9 Kangna Industries is a leading pharmaceutical company in India . The company chooses to diversify its operations to capture a wider market. Rajat the Managing Director of the company suggests that it should add handicraft as an additional product line without interrupting the existing operations.

(a) What kind of organizational framework would you suggest and why ?

(b) State any two limitation of this framework.

Q10 A recent rate cut in the interest on loans announced by the banks encouraged Amit, a science student of Progressive school, to take a loan from State bank of India to experiment and develop cars to be powered by the fuel produced by garbage. He developed such a car and exhibited it in the Science Fair Organized By The Directorate Of Education. He was awarded the first prize for his invention. Identify and explain the dimensions of business environment discussed in the above case.

Q11 The Court Passed an order to ban Polyethene bags as ;

a) These bags create many environment problems which affect the life of people.

b) Society at large is more concerned about quality of life.

The government decided to give a subsidy to the jute industry in order to promote this business. As a result-

1.Innovative techniques are being developed to manufacture jute bags at low rates.

2.Incomes are rising and people can afford to buy these bags

Identify the different dimensions of business environment by quoting lines from the above particulars

Q12 Indian Drugs and Pharmaceutical Ltd is engaged in the manufacturing and distribution of medicines. The company has set up an objective of increasing its sales turnover by 20%. To achieve this objective the company has decided to diversify into Baby Healthcare products. Since the company has already set its objectives and developed premises based on the same, it wants your help for the remaining steps to be taken in this process. Explain briefly these steps

Q13 Gurpreet Ltd follows a standard procedure for selecting production manager for its company. It is a single use plan or a standing plan. Give reasons

Q14 Identify the type of plan in the following statements

a) They are ends which the organization wants to achieve by its operations
b) Girls will be given a rebate of 5% cut off for admission in college
c) It facilitates comparison of actual results with the planned results
d) Library will issue at one time only 4 books for 15 days

e) Any employee found logging to any social networking site in the office, will be punished Q15

a) It refers to an occupation backed by specialized knowledge and training and to which entry is restricted. Identify the concept highlighted here

b) State those features of the concept identified in (a) above which are not present in management

ACCOUNTS

CH4 -CHANGE IN PROFIT SHARING RATIO

Q1 What is meant by reconstitution of a partnership firm ? State any 4 occasions on which a partnership firm can be reconstituted

Q2 Differentiate between sacrificing ratio and gaining ratio

Q3 A, B, C and D are partners in a firm sharing profits and losses in the ratio of 2:1:2:1. With effect from 1st April, 2017 they decided to share future profits and losses equally. The goodwill of the firm was valued at 2 years purchase of average profits of last 3 years which were Rs 75,000, Rs 45,000 and Rs 60,000 respectively. Calculate the sacrifice or gain made by A, B, C and D on change in profit sharing ratio. Calculate the value of goodwill and give the necessary journal entry to record it

Q4 X, Y and Z are partners sharing profits and losses in the ratio of 2:2:1. With effect from 1st April, 2017 they agreed to change their profit sharing ratio. On that date, their balance sheet showed general reserve of Rs 82,000, and debit balance of profit and loss account of Rs 7,000. The partners passed the following journal entry to give effect to the adjustment for accumulated profits, losses and reserves;

Z's Capital account	Dr	10,000	
To X's Capital Account			5,000
To Y's Capital Account			5,000

Calculate the individual partners gain or sacrifice due to change in ratio and new profit sharing ratio

Q5 A and B are partners in a firm sharing profits and losses in the ratio of 3:2. On 1.4.2015, they decided to share profits and losses equally. On that date, their balance sheet showed a general reserve of Rs 80,000. Record the necessary adjustment journal entry in the books of the firm if the partners do not want to transfer the general reserve in their capital accounts

CH5 -ADMISSION OF A PARTNER

Q1.How can a new partner be admitted?

Q2.State the need for treatment of goodwill on admission of a partner.

Q3.What is a revaluation account?

Q4.At the time of admission of a partner ,who decides what will be the share of profit of the new partner out of the firm"s profit?

Q5 A and B are partners sharing profits in the ratio of 5:3.They admit C with 1/5th share in the profits,which he acquires equally from both,i.e,1/10from A and 1/10 from B.Calculate the new profit sharing ratio.

Q6.Lucy and Zeny are partners in a firm sharing profits in 4:3 ratio. They admitted Allen as a new partner for 20% share in the profits. Allen acquired his share of profits in the ratio of 1:2 from Lucy and Zeny. Calculate the new profit sharing ratio of Lucy, Zeny and Allen.

Q7 A and B are partners sharing profits in the ratio of 2:1. C is admitted as a new partner and the new ratio is decided as 5:3:2. The assets and liabilities are revalued as:

1)Building was appreciated by 25%(book value of building was Rs 4,00,000)

2)The provision of doubtful debts was reduced from Rs5,000 to Rs3,000.

3)A provision for Rs4,000 was to be made for an outstanding bill of repairs.

4)Unrecorded investments were worth Rs 10,000.

5)Unrecorded liability towards suppliers was Rs 12,000

Pass journal entries for the above on the admission of C

Q8Saloni and Shriti were partners in a firm sharing profits in the ratio of 7:3.Their capitals were Rs2,00,000 and Rs 1,50,000 respectively. They admitted Aditi on 1st A pril,2013 as a new partner for 1/6th share in future profits. Aditi brought Rs1,00,000 as her capital. Calculate the value of goodwill of the firm and record necessary journal entries for the above transaction on Aditi's admission.

Q9.Vimal and Kamal are partners sharing profits in the ratio 4:1.They admitted Amal as a new partner who brings Rs1,50,000 as his share of goodwill(premium).Amal is entitled to1/3rd share in profits. As between themselves ,Vimal and Kamal agree to share future profits and losses equally. You are required to;

1.calculate the new profit sharing ratio.

2Record journal entries showing appropriation of premium.

Q10 Sahaj and Nimish are partners in a firm .They share profits and losses in the ratio of 2:1.Since both of them are specially abled ,sometimes they find it difficult to run the business on their own. Gauri, a common friend decided to help them. Therefore they admitted her into the partnership for 1/3rd share.She brought her share of goodwill in cash and proportionate capital. At the time of Gauri's admission, the Balance Sheet of Sahaj and Nimish was as under

Liabilities	Amount	Assets	Amount
	Rs		Rs
Capital Accounts:		Machinery	1,20,000
Sahaj		Furniture	80,000
1,20,000	2,00,000	Stock	50,000
Nimish	30,000	Sundry Debtors	30,000
80,000	30,000	Cash	20,000
General Reserve	40,000		
Creditors	3,00,000		3,00,000
Employee's Provident Fund			

It was decided to;

a)Reduce the value of stock by Rs 5,000

b) Depreciate furniture by 10%and appreciate machinery by 5%.

c)Rs3,000 of the debtors proved bad. A provision of 5% was to be created on Sundry debtors for doubtful debts.

d)Goodwill of the firm was valued at Rs5,000.

Prepare Revaluation a/c, partners capital accounts and Balance Sheet of the reconstituted firm.

Attempt all the above questions in your assignment register

GEOGRAPHY

1) Read the chapters of the textbook- fundamentals of human geography thoroughly.

2) Write any five difficult words from each chapter of Human geography with their meaning in H.W register.

3) Frame 5 one word answer type questions and 5 multiple choice questions from each chapter of human geography and write in your H.W register.

4) Complete the assignment given to you from Human geography in homework register

5) Complete the map work given to you from the textbook human geography and paste them in your H.W register.

HISTORY

PROJECT WORK IN HISTORY FOR CLASSES XI AND XII

History is one of the most important disciplines in school education. It is the study of the past, which helps us to understand our present and shape our future. It promotes the acquisition and understanding of historical knowledge in breath and in depth across cultures. The course of history in senior secondary classes is to enable to students to know that history is a critical discipline, a process of enquiry, a way of knowing about the past rather than just a collection of facts. The syllabus helps them to understand the process, through which a historian collects, chooses, scrutinizes and assembles different types of evidences to write history. The syllabus in class-XI is organized around some major themes in world history. In class XII the focus shifts to a detailed study of some themes in ancient, medieval and modern Indian history. CBSE has decided to introduce project work in history for classes XI and XII in 2013-14 as a part of regular studies in classroom, as project work gives students an opportunity to develop higher cognitive skills. It takes students to a life beyond text books and provides them a platform to refer materials, gather information, analyze it further to obtain relevant information and decide what matter to keep and hence understand how history is constructed

OBJECTIVES:- Project work will help students:-

- To develop skills to gather data from a variety of sources investigate diverse viewpoints and arrive at logical deductions.

- To develop skills to comprehend, analyze, interpret, evaluate historical evidence and also understand the limitations of historical evidence.
- To develop 21st century managerial skills of co-ordination, self-direction and time management.
- To give a multidisciplinary approach to topics.
- To learn to work on diverse cultures, races, religions and lifestyles.
- To learn through constructivism a theory based on observation and scientific study.
- To inculcate a spirit of inquiry and research.
- To communicate data in the most appropriate form using a variety of techniques.
- To provide greater opportunity for interaction and exploration.
- To understand contemporary issues in context to our past.

ASSESSMENT

ALLOCATION OF MARKS (20)

The marks will be allocated under the following heads:

Project synopsis	2 Marks
Data/Statistical analysis/Map work	3 Marks
Visual/overall presentation	5 Marks
Analysis/explanation and interpretation	5 Marks
Bibliography	1 Marks
Viva	4 Marks

TOTAL 20 MARKS

THEMES IN INDIAN HISTORY

TOPIC:

- Town planning and Artifacts of the Harappan civilization
- Mahabharata through a Readers eye.
- Through the Travelers Eyes.

  Ibn Batuta, Al Biruni, Marco Polo, Nicolo Conti, Abdur Razaq, Francois Bernier Athanasius Nikitin, Duarte Barbosa, Jean-Baptiste Tavernier, Jesuit Roberto Nobili .
- Understanding the Bhakti-Sufi Movement in India
- Kabir, Guru Nanak, Mira Bai, Bassavana.
- Depiction of Life during Mughal period through Paintings.
- How the Partition in 1947 was not just a division of territory but also a division of hearts and how it affected the common people.
- Great philosophers of India- Gautam Buddha and Mahavira.
- The Vijayanagara empire with special focus on the city called Hampi.
- The tribal groups of India- The pahariyas and the Santhals.
- Colonial cities- Bombay, Madras and Calcutta with special reference to architectural style of these cities.
- Role of women in the Mughal empire- Agrarian women and imperial women with special reference to Nur Jahan, Gulbadan Banu, Jahanara,Roshanara.
- Role of Mahatma Gandhi in the nationalist movement.
- The Constitution of India- Framing, implementation, importance.
- The mysteries behind the mound of dead – Mohenjo-Daro
- An In-depth study to understand Spiritual Archaeology in the Sub-Continent
- Buddha's Path to Enlightenment
- Insight and Reflection of Bernier's notions of The Mughal Empire
- An exploratory study to know the women who created history
- "Mahatma Gandhi" – A legendary soul
- To reconstruct the History of Vijaynagar through the Archaeology of Hampi
- The emerald city of Colonial Era – BOMBAY

- Vision of unity behind the first war of Independence
- Divine Apostle of Guru Nanak Dev
- Help, Humanity and Sacrifices during Partition
- Glimpses inside Mughals Imperials Household
- The process behind the framing of the Indian Constitution
- The 'Brahm Nirupam' of Kabir – A journey to Ultimate Reality

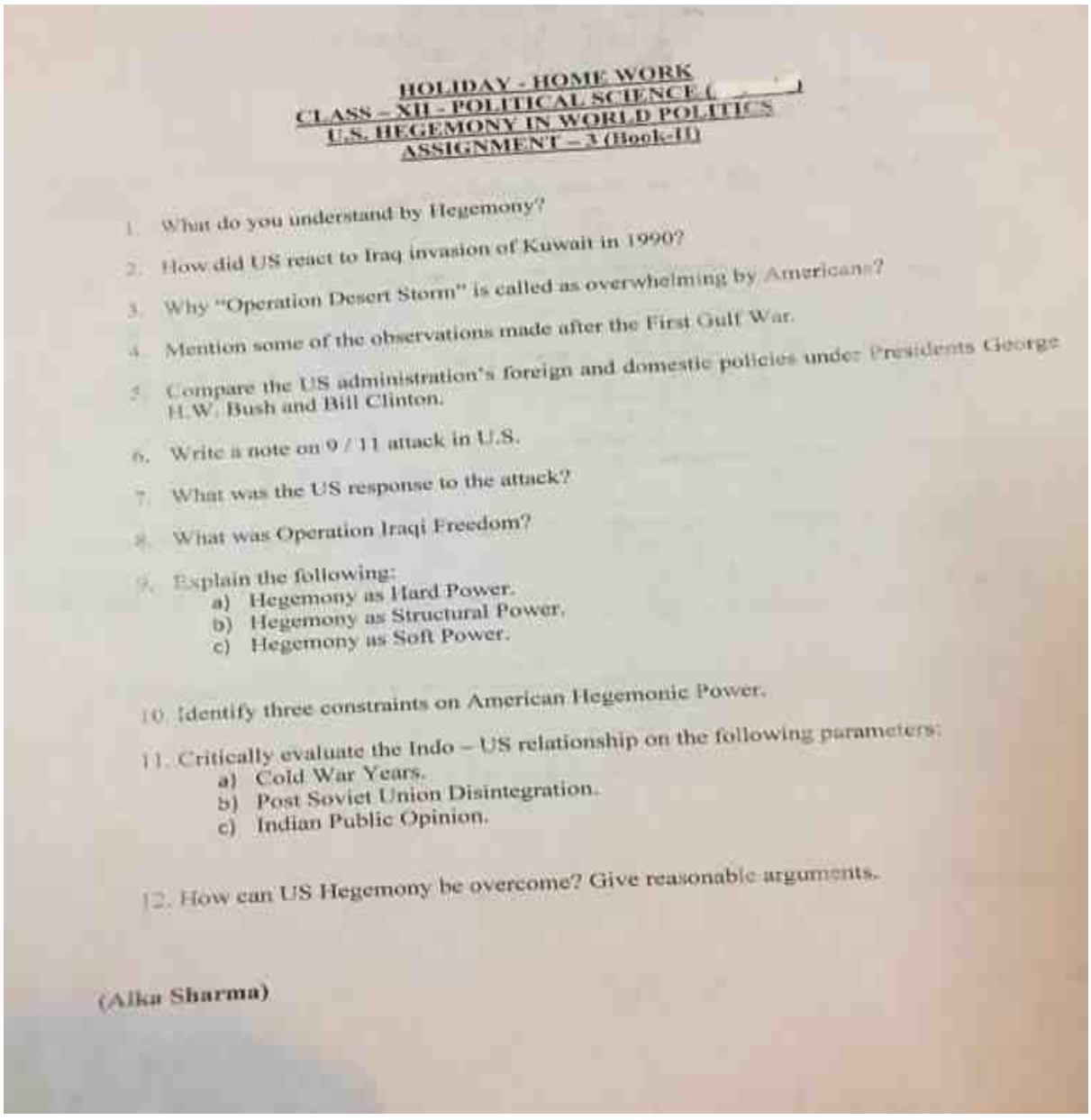
Note: collect the information for research from the following websites-edu, gov and org. Use search engines for quick response – Google, Bing, Yahoo, Ask.com, Aol.com, Baidu, Duck DuckGo etc.

- Read all the chapters and underline the difficult words and write there meanings in the book itself.
- Paste all the sources in a separate notebook and frame the questions related to the sources.
- Do the Map items enlisted below.

LIST OF MAPS Book 1 1. P-2. Mature Harappan sites: Harappa, Banawali, Kalibangan, Balakot, Rakhigarhi, Dholavira, Nageshwar, Lothal, Mohenjodaro, Chanhudaro, Kot Diji. 2. P-30. Mahajanapada and cities : Vajji, Magadha, Kosala, Kuru, Panchala, Gandhara, Avanti, Rajgir, Ujjain, Taxila, Varanasi. 3. P-33. Distribution of Ashokan inscriptions: (i) Kushanas, Shakas, Satavahanas, Vakatakas, Guptas (ii) Cities/towns: Mathura, Kannauj, Puhar, Braghukachchha (iii) Pillar inscriptions - Sanchi, Topra, Meerut Pillar and Kaushambi. (iv) Kingdom of Cholas, Cheras and Pandyas. 4. P-43. Important kingdoms and towns: (i) Kushanas, Shakas, Satavahanas, Vakatakas, Guptas (ii) Cities/towns: Mathura, Kanauj, Puhar, Braghukachchha, Shravasti, Rajgir, Vaishali, Varanasi, Vidisha 5. P-95. Major Buddhist Sites: Nagarjunakonda, Sanchi, Amaravati, Lumbini, Nasik, Bharhut, BodhGaya, Shravasti, Ajanta.
Book 2 1. P-174. Bidar, Golconda, Bijapur, Vijayanagar, Chandragiri, Kanchipuram, Mysore, Thanjavur, Kolar, Tirunelveli, Quilon 2. P-214. Territories under Babur, Akbar and Aurangzeb: Delhi, Agra, Panipat, Amber, Ajmer, Lahore, Goa. 279
Book 3 1. P-297. Territories/cities under British Control in 1857: Punjab, Sindh, Bombay, Madras Fort St. David, Masulipatam, Berar, Bengal, Bihar, Orissa, Avadh, Surat, Calcutta, Daccan, Chitagong, Patna, Benaras, Allahabad and Lucknow. 2. P-305. Main centres of the Revolt of 1857: Delhi, Meerut, Jhansi, Lucknow, Kanpur, Azamgarh, Calcutta, Benaras, Gwalior, Jabalpur, Agra, Avadh. 3. P-305. Important centres of the National Movement: Champaran, Kheda, Ahmedabad, Benaras, Amritsar, Chauri Chaura, Lahore, Bardoli, Dandi, Bombay (Quit India Resolution), Karachi.

POLITICAL SCIENCE

1. Read all the chapters from both the books- Politics in India since independence and Contemporary World Politics.
2. Complete the given assignments. Complete them in homework notebook.



HOLIDAY - HOME WORK
CLASS – XII - POLITICAL SCIENCE ( )
U.S. HEGEMONY IN WORLD POLITICS
ASSIGNMENT – 3 (Book-II)

1. What do you understand by Hegemony?
2. How did US react to Iraq invasion of Kuwait in 1990?
3. Why "Operation Desert Storm" is called as overwhelming by Americans?
4. Mention some of the observations made after the First Gulf War.
5. Compare the US administration's foreign and domestic policies under Presidents George H.W. Bush and Bill Clinton.
6. Write a note on 9 / 11 attack in U.S.
7. What was the US response to the attack?
8. What was Operation Iraqi Freedom?
9. Explain the following:
   a) Hegemony as Hard Power.
   b) Hegemony as Structural Power.
   c) Hegemony as Soft Power.
10. Identify three constraints on American Hegemonic Power.
11. Critically evaluate the Indo – US relationship on the following parameters:
    a) Cold War Years.
    b) Post Soviet Union Disintegration.
    c) Indian Public Opinion.
12. How can US Hegemony be overcome? Give reasonable arguments.

(Alka Sharma)

HOLIDAY - HOME WORK
CLASS – XII - POLITICAL SCIENCE (
THE END OF BIPOLARITY
ASSIGNMENT – 2 (Book-II)

1. Critically evaluate the Soviet System?
2. Evaluate the role of Gorbachev in Soviet disintegration.
3. How did the second most powerful country in the world suddenly disintegrate?
4. The collapse of the second World of the Soviet Union and the socialist systems in Eastern Europe had profound consequences for world politics. Explain.
5. Define Shock Therapy. Write its features.
6. Explain in detail the consequences of shock therapy in post – communist regimes.
7. Most of the former Soviet Republics became prone to conflicts, civil wars and insurgencies. Justify by giving examples.
8. How did India maintain its relations with post – communist regimes?
9. The collapse of Berlin Wall in 1989 was the most historic moment of 20th Century. Give reasons in support of the statement.
10. Locate the Central Asian Republics on an outline (political) map of the World.

CLASS - XII
ASSIGNMENT – 3
POLITICAL SCIENCE (
CHAPTER – 3 (POLITICS OF PLANNED DEVELOPMENT)

1. What do you understand by left and right political parties?
2. The term development has different meanings to different sections of people. Explain the statement with reference to India in 1950's.
3. i) What was "Bombay Plan"?
   ii) Why the Planning Commission was constituted? Who was its Chairperson?
   iii) What is the new name of Planning Commission?
4. What is "Kerala Model of Planning"?
5. Write main features of First and Second Five Year Plans.
6. Highlight the main controversies about the following:
   (i) Agriculture vs Industries
   (ii) Public vs Private Sector
7. Why is it said that the first two Five Year Plans laid the foundations of India's future economic growth?
8. Write in brief about:
   i) Food Crisis
   ii) Green Revolution
   iii) White Revolution
9. There were significant changes in Indian economy at the end of 1960's. Justify the statement.

(Alka Sharma)

3. Complete research for the project. Write in brief the layout, the topic allotted. Write bibliography & sources used.

PROJECT DETAILS:

TOPICS	ROLL NUMBERS/GROUPS
1. Partition of India	1-5 Group I
2. Emergence of US as hegemonic power	6-10 Group II
3. Elections in India	11-15 Group III
4. Rise of alternative power centres (EU, ASEAN, SAARC)	16-20 Group IV
5. Rise of Chinese economy	21-25 Group V
6. End of bipolarity (decline of USSR)	26-30 Group VI
7. Rise of popular movements (Chipko movement, NBA, BKU0	31-35 Group VII
8. Rise of BJP as a national party (especially from 2014 onwards)	36-40 Group VIII

4. Revise the chapters for cycle test II from both the textbooks.

हिंदी

1 साहित्यकार 'केदारनाथ सिंह' के जीवन परिचय से संबंधित परियोजना कार्य तैयार कीजिए।

2 इस अवकाश में आप जहाँ भी भ्रमण करने गए, उन अनुभवों को किसी शीर्षक में बाँधकर फीचर लिखिए।

3 छुट्टियों में देखी गई फिल्मों का परिचय देते हुए किसी एक फिल्म के बारे में लिखिए कि आप निर्देशक होते तो उस फिल्म को कैसे और किन–किन स्थानों पर क्या–क्या परिवर्तन कर बनाते।

4 आप अपने जीवन के उद्देश्य को अपने शब्दों में लिखिए।

National Income and related aggregates (133)

Q1. Are the following statements true or false. Give reason.
i) Tractor purchased by a farmer is a capital good.
ii) Fuel used by a transport company is final good.
iii) Milk used in a restaurant is a capital good.
iv) Spares of a truck is a final good.
v) Single use ~~intermediate good~~ consumer goods are intermediate goods.
vi) A good is neither always 'final' nor 'intermediate'.
vii) Butter is only a final product.

Q2. Are the following a part of a country's gross domestic product at market price? Explain
i) Net indirect taxes
ii) Current Replacement cost.
iii) Net factor income from abroad.
iv) Remittances received by family members from their relatives working abroad.

Q3. Are the following statements true or false? Give reasons.
i) Change in stock is not part of capital formation.
ii) Imputed rent of owner-occupied house is part of national income.
iii) Exports are a part of net factor income from Abroad.
iv) Gross domestic capital formation is always greater than gross fixed capital formation.
v) Goods purchased for self consumption will be included in the national income.

Q4. How are the following Treated in the estimation of compensation of Employees. Give reason.
a) Employer's contribution towards social security of employees.
b) Old age - pension
c) Expenses of a firm on medical treatment of families of employees.
d) Rent-free accomodation to employee.
e) Entertainment allowance to an employee for entertaining business guests.

Q5. How will you treat the following while estimating domestic factor income of India? Give reason.
i) Rent paid by embassy of Japan in India to a resident Indian.
ii) Profits earned by branches of foreign bank in India
iii) Profits earned by a branch of State bank of India in England.
iv) Salaries to Indian resident working in Russian Embassy in India
v) Profits earned by a company in India which is owned by a non-resident.
vi) Gift given by an employer to his employees on Independence day.

Q6. How will you treat the following while estimating national income of India. Give reason.
i) Payment of corporate tax by a firm.
ii) Profits earned by the branches of a foreign bank in India
iii) Salaries of Indian working in American Embassy in India.
iv) Payment of fees to a chartered accountant by a firm.
v) Compensation given by insurance company to an injured worker.

Q7. Numericals - Sandeep Garg
From Pg 4.92 - 4.113

Q8. Project Work - On Topic Alloted in the class.

Assignment- Economics

Class-XII

Q.1) What are the four factors of production and what are the remunerations to each of these called?

Q.2) Between net investment and capital, which is a stock and which is a flow.

Q.3) State whether the following are intermediate goods or final goods:

i) Purchase of raw materials by the firm.

ii) Purchase of tea- leaves by the restaurant.

iii) Electricity used by the house-hold

iv) The amount of investment .

v) The amount of bank deposits on 31-03-2007.

vi) The amount of bank deposits during a year.

vii) National Capital

vii) National Income

Q.5) Explain with example that intermediate or final goods depends on its use.

Q.6) Will the sale of wheat by a farmer in the whole sale market by regarded as intermediate or final good.

Q.7) Name the three aspects of circular flow of income.

Q.8) Distinguish between:

a) Intermediate & Final Goods

b) Stock & flows

c) Goods & services

d) Consumption goods & Capital goods

e) Real flow & Money flow

f) Injections & Withdrawals

g) Gross Investment & Net Investments

h) Consumption of fixed capital & capital Loss

Q.9) Define:

a) National Income Accounting

b) Production Process

Q.10) Tell Whether 10 goods laying with the traders are intermediate good or final goods.

Q11) How can you estimate net investment from gross investment.

Q.12) Explain with example that intermediate or final goods depends on its use.

GDP and Welfare

Q1. Welfare of the people of a country is determined by:
a) Nominal GDP b) Real GDP
c) Per capita Real GDP d) Per capita real GDP and host of other factors.

Q2. Production of Petrol and diesel driven vehicles
a) Raises welfare b) Reduces welfare
c) Both (a) & (b) d) has no effect on welfare.

Q3. A growing economy is one where
a) GNP is rising at current prices
b) GNP is constant at constant prices
c) GNP is rising at constant prices
d) None of these

Q4. Real National Income means:
a) National Income at current prices
b) National Income at factor prices
c) National Income at constant prices
d) National Income at average price of past five years

Q5. Define nominal GDP

Q6. Give one example of externality which reduces welfare of the people.

Q7. State two limitations of gross domestic product as a measure of economic welfare.

Q8. What is the difference between real and nominal GDP. Which of them is a better indicator of economic welfare and why?

Q9. The value of nominal GNP of an economy was ₹ 2500 cr in a particular year. The value of GNP of that country during the same year, evaluated at the prices of some base year was ₹ 3,000 cr. Calculate the value of GNP deflator. Has the price level risen between the base year and the year under consideration.

Q10. Giving reason, state whether the following statements are true or false.
a) Real GDP can be equal to nominal GDP.
b) Real GDP can be more than nominal GDP.

Q11. During a given year nominal national income increased by 14% while the real national income increased by only 6%. Population increased by 2%. What has caused the difference between nominal and real income. What is real per capita income.

Q12. Govt. incurs expenditure to popularize yoga among the masses. Analyse it's impact on gross domestic product and welfare of the people.

Q13. Maintaining cordial relations with family members, relatives, friends etc. do not contribute to GDP. Does it mean that these activities are a waste? Give your answer in the context of GDP as an indicator of welfare

Q14. Explain, why, due to presence of externalities real GDP in itself can not be treated as true index of welfare.

Q15. How distribution of GDP is a limitation in taking GDP as an index of welfare.

Q16. Government spends on child immunisation programme. Analyse it's impact on GDP and welfare of the people.

Q17. Does a 10% rise in real GDP in a given year means that people on an average are 10% better off- as compared to last year. Why or Why not? Give reasons.

National Income

Q.1) Giving Reasons , explain the treatment assigned to the following while estimating N.I.

(i) Family members working free on the farm owned by the family.

(ii) Payment of interest on borrowing by general Government.

(iii) Social security contribution by employees.

(iv) Pension paid after retirement.

(v) Expenditure on maintenance of a building.

(vi) Expenditure on adding a floor to the building.

(vii) Payment of income tax by a firm.

(viii) Festival gift to employee.

(xi) Contribution to provident fund by employers.

(x) Free dress provided to nurses by the hospital.

(xi) Payment of bonus by a firm.

(xii) Payment of interest on a loan taken by an employee from the employer.

(xiii) Interest paid by banks on deposits by individuals.

(xiv) Salary received by an Indian resident working in U.S. embassy in New Delhi.

(xv) Interest received by an individual from bank.

(xvi) Profits earned by an Indian bank from its branches abroad.

Q.2) Money flows are apposite to real flow. How?

Q.3) What is meant by double counting? Why should it be avoided?

Q.4) Should we treat subsidies as transfer payments?

Q.5) Distinguish between consumer goods & capital goods. Which of these are final goods?

Q.6) Employees make provision for social security for their employees during their period of service. Do these contribute to national income. Give Reason.

ASSIGNMENT

(1 MARKER)

Q1.Identify the components of money supply

a) Currency held outside banks.

b) Currency held by banks.

c) Demand deposits

d) Fixed deposits.

Q2.Supply of money refers to quantity of money

a) During the year only

b) During any period of time

c) As on 31st march only

d) as on any point of time

Q3.Given CRR=4% and SLR=16%, the value of multiplier is

a)25 b)6.25

c)5 d)8.33

Q4.Which of the following makes a financial institution a bank.

a)accepting deposits b)lending

c) Accepting demand deposits d) accepting time deposits

(3-4 MARKER)

Q1.Give the meaning of money supply. State its components.

Q2.Name the components of legal reserve ratio. Define each.

Q3.Explain the banker's bank function of the central bank.

Q4.Distinguish between repo rate and reverse repo rate.

Q5.Government of India launched Jan Dhan Yojana aimed at every house hold in the country to have at least one bank account. Explain how deposits made under the plan are going to affect national income of the country.

(6 MARKER)

Q1.Explain the working of the money multiplier with the help of an example.

Q2, Explain the following functions of the central bank- (a)currency authority of the country. (b)government banker and supervisor.

Q3.Explain how central bank can use open market operations and cash reserve ratio to influence money supply in the economy.