

Holidays' Homework

Class – XII

ENGLISH

1. Read any English Newspaper of your choice daily and practice minimum five note making of any topic after pasting the text on the register.
2. Collect five classified advertisements each of the following type and paste them in the register.
 - i. Property/To Let/For sale
 - ii. Situation vacant/Wanted
 - iii. Vehicles for sale
 - iv. Hobby classes
 - v. Matrimonial
3. Collect any five posters giving a social message or information about an event.
4. Paste invitation cards of a wedding and a formal function.
5. Revised the lessons and poems taught in the class.
6. Watch debates on TV like 'We The People' and 'The Big Fight' and write a debate on any one topic which impressed you the most.

BIOLOGY

1. Learn all the chapters studied in the class.
2. Complete the record file.
3. Read the investigatory project and prepare for viva voce.
4. Write down the answers to HOTS and previous year board questions provided to you.

CHEMISTRY

Q1. Solve all the NCERT questions of the following chapters in your assignment register

- i. Unit 2 – Solutions
- ii. Unit 3 – Electrochemistry
- iii. Unit 4 – Surface Chemistry

Q2. Search for the topic of investigatory project and complete the theoretical part of the project.

Computer Science

Q.1 (a) Name the header files that shall be needed for the following code:-

```
void main( )  
{  
clrscr();  
char string[20];  
gets(string);  
strcpy(string,"CBSE");  
puts(string);  
getch();  
}
```

(b) Name the header file to which the following function belong:

```
strcpy( ),toupper( ),random( ),isalnum( ),abs( ), isupper( ), strcmp( ), fabs()  
puts( ),clrscr(),getchar(),exp()
```

Q.2 a) Define a class in C++ with following description:

Private Members

- A data member Flight number of type integer

- A data member Destination of type string
- A data member Distance of type float
- A data member Fuel of type float
- A member function CALFUEL() to calculate the value of Fuel as per the following criteria:

Distance	Fuel
<=1000	500
more than 1000 and <=2000	1100
more than 2000	2200

Public Members

" A function FEEDINFO() to allow user to enter values for Flight Number,

Destination, Distance & call function CALFUEL() to calculate the quantity of Fuel

" A function SHOWINFO() to allow user to view the content of all the data members

b) Define a class garments with the following description:

private members:

gcode string
 gtype string
 gsize integer
 gfebric string
 gprice float

a function assign() which calculates and assigns the value of gprice as follows:

for the value of gfebric "cotton"

gtype gprice

trouser 1300

shirt 1100

for gfebric other than “cotton” the above mentioned gprice gets reduced by 10%

public members:

*A function input() to input the values of the data members gcode, gtype, gsize and gfebric and invoke the assign() function.

*A function display() which display the contents of all the data members for a garment.

c) Define a class Tour with the following description:

private members:

tcode string

NoofAdults integer

Noofkids integer

kilometer integer

totalfare float

public members:

*A function Assignfare() which calculates and assigns the values of the data member totalfare as follows:

for each adult

fare	for KM
500	>=1000
300	<1000 & >=500
200	<500

for each kid the above fare will be 50% of the fare mentioned in the above table.

for eg.

if KM is 850, No. of adults=2 and No.of kids=3

then total fare should be calculated as

no. of adults*300+no. of kids*150

i.e 1500

* A function `entertour()` to input the values of the data members `tcode`, `NoofAdults`, `Noofkids`, `kilometer` and invoke the `assignfare()` function.

* A function `showtour()` which display the contents of all data members.

d) Define a class `danceAcademy` with following descriptions

Private members

- `enrollNo` of type `int`
- `name` of type `string`
- `style` of type `string`
- `fee` of type `float`
- a member function `chkfee()` to assign the value of `fee` variable according to the style entered by the user according to the criteria as given below:

<u>Style</u>	<u>Fee</u>
Classical	10000
Western	8000
Freestyle	11000

Public members

- A function `enrollment()` to allow users to enter values for `enrollno`, `name`, `style` and call function `chkfee()` to assign value of `fee` variable according to the style entered by the user.
- A function `display()` to allow users to view the details of all the data members

e) Define a class `book` with the following specifications:

Private members:

→ Book_no integer,

book_title 20 char,

price float (price per copy)

→ Total_cost() – a function to calculate the total cost for N numbers of copies, where N is passed to the function as argument.

Public members:

→ Input() - a function to read book_no, title and price.

→ Purchase() – function to ask the user to input no. of copies to be purchased. It invokes total_cost() and print the total cost to be paid by the user.

f). Define a class employee with the following specification:

Private members:

→ Empno integer type

→ Ename 20 character

→ Basic, hra, da float

→ Netpay float

→ Ctotal() a function to calculate the total as basic+hra+da with float return type.

Public members:

→ Takedata() a function to read empno, ename, basic, hra, da and invoke Ctotal() to calculate total.

→ Showdata() a function to display all the data members on the screen

Note:- revise all the topics covered in the class so far.

Mathematics

RELATIONS AND FUNCTIONS

Q-1 Relation R is defined on $A = \{1, 2, 3, 4, \dots, 15\}$ as $R = \{(a, b) : a, b \in A \text{ and } |a-b| \text{ is a multiple of } 4\}$, show that R is an equivalence relation on A, also find the equivalence class of 4.

Q-2 Show that the relation R defined by $(a, b)R(c, d) \Rightarrow a+d=b+c$ on the set $\mathbb{N} \times \mathbb{N}$ is an equivalence relation.

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

Q-4 Let R be a relation on $\mathbb{N} \times \mathbb{N}$ defined as $(a, b)R(c, d)$ iff $ad=bc$ for all $(a, b), (c, d) \in \mathbb{N} \times \mathbb{N}$. Show that R is an equivalence relation.

Q-5 (a) Let $f(x) = [x]$ and $g(x) = |x|$ find (i) $(g \circ f)\left(-\frac{4}{3}\right) - f \circ g\left(-\frac{4}{3}\right)$ (ii) $(f+2g)(-1)$

(b) $f(x) = \frac{4x+3}{6x-4}$, $x \neq \frac{2}{3}$ show that $f \circ f(x) = x$, hence find f^{-1} .

Q-6 Let $A = \mathbb{R} - \{3\}$, $B = \mathbb{R} - \{1\}$, consider the function $f: A \rightarrow B$ defined by $f(x) = \frac{x-2}{x-3}$ is one-one & onto and hence find f^{-1} . PAWAN

Q-7 Let Z be the set of all integers and R be the relation on Z defined as $R = \{(a, b) : a, b \in Z \text{ and } a-b \text{ is divisible by } 5\}$. Prove that R is an equivalence relation.

Q-8 Consider the function $f: W \rightarrow W$, defined as $f(n) = \begin{cases} n-1, & \text{if } n \text{ is odd.} \\ n+1, & \text{if } n \text{ is even.} \end{cases}$, show that f is invertible. Also find its inverse.

Q-9 The function $f: A \rightarrow B$ defined as $f(x) = \frac{7x+4}{5x-3}$ and the function $g: B \rightarrow A$ defined as $g(x) = \frac{3x+4}{5x-7}$ where $A = \mathbb{R} - \{3/5\}$, $B = \mathbb{R} - \{7/5\}$, find $g \circ f$ and $f \circ g$. Hence find f^{-1} .

Q-10 Show that $f: A \times B \rightarrow B \times A$ defined as $f(a, b) = (b, a)$ is a bijective function.

Q-11 Consider the function $f: R \rightarrow \{x \in -1 < x < 1\}$, defined as $f(x) = \frac{x}{1+|x|}$ is bijective function.

Q-12 Find the value of parameter p so that $f(x) = 1+px$, $p \neq 0$ is the inverse of itself.

Q-13 Let R be the relation on N defined as $R = \{(x, y) \in \mathbb{N} \times \mathbb{N} ; x + y = 15\}$ check whether the relation R is reflexive, symmetric and transitive or not.

Q-14 show that the relation R in the set of real numbers defined as $R = \{(a, b) : a \leq b^2\}$ is neither reflexive nor symmetric, nor transitive.

Q-15 let T be the set of all triangles in a plane with R as a relation in T given by $\{(T_1, T_2) : T_1 \cong T_2\}$ show that R is an equivalence relation. PAWAN

Q-16 Write a relation which is neither reflexive nor transitive but symmetric.

INVERSE TRIGONOMETRIC FUNCTIONS.

Q-1 Prove that $\tan^{-1} 1 + \tan^{-1} 2 + \tan^{-1} 3 = \pi$

Q-2 Prove that $\tan\left(\frac{\pi}{4} + \frac{1}{2} \cos^{-1} \frac{a}{b}\right) + \tan\left(\frac{\pi}{4} - \frac{1}{2} \cos^{-1} \frac{a}{b}\right) = \frac{2b}{a}$

Q-3 Prove that $\cos(\tan^{-1}(\sin(\cot^{-1} x))) = \sqrt{\frac{x^2+1}{x^2+2}}$

Q-4 Prove that $2 \tan^{-1} \frac{1}{5} + \sec^{-1} \frac{5\sqrt{2}}{7} + 2 \tan^{-1} \frac{1}{8} = \frac{\pi}{4}$

Q-5 Prove that $\sin^{-1} \frac{4}{5} + \sin^{-1} \frac{5}{13} + \sin^{-1} \frac{16}{65} = \frac{\pi}{2}$

Q-6 Prove that $\cos^{-1}\left(\frac{\cos\alpha + \cos\beta}{1 + \cos\alpha\cos\beta}\right) = 2 \tan^{-1}\left(\tan\frac{\alpha}{2} \tan\frac{\beta}{2}\right)$

Q-7 solve for x, $(\sin^{-1} 6\sqrt{3}x) + (\sin^{-1} 6x) = \frac{\pi}{2}$

Q-8 Solve for x, $(\tan^{-1} x)^2 + (\cot^{-1} x)^2 = \frac{5\pi^2}{8}$

Q-9 solve for x, $\sin^{-1}(1-x) - 2 \sin^{-1} x = \frac{\pi}{2}$

Q-10 (I) Write in simplest form $\cot^{-1}\left(\frac{\sqrt{1+\sin x} + \sqrt{1-\sin x}}{\sqrt{1+\sin x} - \sqrt{1-\sin x}}\right)$ where $x \in (0, \frac{\pi}{2})$

(II) Write in simplest form $\tan^{-1}\left(\frac{\sqrt{1+x^2} - \sqrt{1-x^2}}{\sqrt{1+x^2} + \sqrt{1-x^2}}\right)$

Q-11 Prove that, $\cot\left(\frac{\pi}{4} - 2 \cot^{-1} 3\right) = 7$

Q-12 (I) Prove that $\tan \left[\frac{1}{2} \sin^{-1} \frac{3}{5} \right] = \frac{1}{3}$ (ii) Prove that $\tan \left(\frac{1}{2} \sin^{-1} \frac{3}{4} \right) = \frac{4-\sqrt{7}}{3}$

Q-13 Find the max. and min. value of $(\sin^{-1} x)^2 + (\cos^{-1} x)^2$ PAWAN

Q-14(a) Solve for x, $\tan^{-1} x + 2 \cot^{-1} x = \frac{2\pi}{3}$ (b) Solve for x, $\tan^{-1} 8 + \cot^{-1} x = \frac{\pi}{2}$

Q-15 solve for x, $\tan^{-1} \left(\frac{1-x}{1+x} \right) = \frac{1}{2} \tan^{-1} x$. $x > 0$

Q-16 solve for x, $\sin^{-1}(1-x) + \sin^{-1} x = \cos^{-1} x$

Q-17 Solve for x, $\tan^{-1} 2x + \tan^{-1} 3x = \frac{\pi}{4}$

Q-18 Prove that $2 \tan^{-1} \left\{ \tan \frac{A}{2} \cdot \tan \left(\frac{\pi}{4} - \frac{B}{2} \right) \right\} = \tan^{-1} \left\{ \frac{\sin A \cdot \cos B}{\cos A + \sin B} \right\}$

Q-19 Prove that $2 \tan^{-1} \left(\sqrt{\frac{a-b}{a+b}} \tan x / 2 \right) = \cos^{-1} \left(\frac{a \cos x + b}{a + b \cos x} \right)$

Q-20 If $\cos^{-1} \frac{x}{a} + \cos^{-1} \frac{y}{b} = \alpha$ then prove that $\frac{x^2}{a^2} - \frac{2xy}{ab} + \frac{y^2}{b^2} = \sin^2 \alpha$ PAWAN

MATRICES.

Q-1 If $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$ show that $A^2 - 5A + 7I = 0$, Hence find A^{-1} & A^3

Q-2 If $A = \begin{bmatrix} \cos \theta & \sin \theta \\ -\sin \theta & \cos \theta \end{bmatrix}$ using P.M.I. prove that $A^n = \begin{bmatrix} \cos n\theta & \sin n\theta \\ -\sin n\theta & \cos n\theta \end{bmatrix}$, $n \in \mathbb{N}$

Q-3 Find a matrix A such that $A \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix} = \begin{bmatrix} -7 & -8 & -9 \\ 2 & 4 & 6 \end{bmatrix}$

Q-4 To raise money for an orphanage, students of three schools A, B and C organized an exhibition in their locality, where they sold paper bags, scrap books and pastel sheets made by them using recycled paper, at the rate of Rs 20, Rs 15 & Rs 5 per unit respectively. School A sold 25 paper bags, 12 scrap books and 34 pastel sheets. School B sold 22 paper bags, 15 scrap books and 28 pastel sheets, while School C sold 26 paper bags, 18 scrap books and 36 pastel sheets. Using matrices, find the total amount raised by each school.

Q-5 - Using elementary transformations find inverse of A where $A = \begin{bmatrix} 1 & 3 & -2 \\ -3 & 0 & -5 \\ 2 & 5 & 0 \end{bmatrix}$

Q-6 If $\begin{bmatrix} 2 & 3 \\ 3 & 4 \end{bmatrix} A \begin{bmatrix} -2 & 5 \\ 3 & -6 \end{bmatrix} = \begin{bmatrix} -2 & 6 \\ 3 & -5 \end{bmatrix}$ find matrix A.

Q-7 If A & B are symmetric matrices of same order then show that (i) $AB+BA$ is symmetric matrix. (ii) $AB-BA$ is a skew symmetric matrix.

Q-8 If $X + 2Y = \begin{bmatrix} 3 & 1 & 1 \\ 5 & 2 & 3 \end{bmatrix}$ and $2X - 3Y = \begin{bmatrix} 2 & 1 & 1 \\ 7 & 2 & 4 \end{bmatrix}$ then find a matrix Z such that $X+Y+Z$ is a zero matrix. PAWAN

Q-9 (i) If $A = \begin{bmatrix} 2 & 0 \\ 0 & 2 \end{bmatrix}$, then find A^{16} . (ii) How many matrices of 2×3 order are possible for which each element can have 1 or 2.

Q-10 If $A = \begin{bmatrix} 2 & -1 \\ 3 & 4 \end{bmatrix}$

$B = \begin{bmatrix} 5 & 2 \\ 7 & 4 \end{bmatrix}$ & $C = \begin{bmatrix} 2 & 5 \\ 3 & 8 \end{bmatrix}$, find matrix D such that $CD - AB = 0$ Q-11 Solve for

$x, [1 \ 2 \ 3] \begin{bmatrix} 1 & 2 & 0 \\ 2 & 0 & 1 \\ 1 & 0 & 2 \end{bmatrix} \begin{bmatrix} 0 \\ 2 \\ x \end{bmatrix} = 0$ Q-12 Express $A = \begin{bmatrix} 2 & 2 & -4 \\ -1 & 3 & 4 \\ 1 & -2 & -3 \end{bmatrix}$ as the sum of symmetric & skew symmetric matrices.

Q-13 If A & B are symmetric matrices of same order then show that (i) $AB+BA$ is symmetric matrix. (ii) $AB-BA$ is a skew symmetric matrix.

Q-14 Show that the matrix $B^T A B$ is a symmetric or skew symmetric matrix according as A is a symmetric or skew symmetric matrix.

Q-15 Prove that for skew symmetric matrix diagonal elements are zero.

Q-16 If $A = \begin{bmatrix} 0 & -\tan(\frac{x}{2}) \\ \tan(\frac{x}{2}) & 0 \end{bmatrix}$ then prove that $I+A = (I-A) \begin{bmatrix} \cos x & -\sin x \\ \sin x & \cos x \end{bmatrix}$

Q-17 If $f(x) = x^2 - 4x - 5$, find $f(A)$ where $A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$, hence find A^{-1} .

Q-18 if $A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & -2 \\ a & 2 & b \end{bmatrix}$ is a matrix satisfying $AA^T = 9I$ then find the values of a & b.

Q-19 If $X + 2Y = \begin{bmatrix} 3 & 1 & 1 \\ 5 & 2 & 3 \end{bmatrix}$ and $2X - 3Y = \begin{bmatrix} 2 & 1 & 1 \\ 7 & 2 & 4 \end{bmatrix}$ then find a matrix Z such that $X + Y + Z$ is a zero matrix.

Q-20 Using elementary operations, Find A^{-1} where (i) $A = \begin{bmatrix} 2 & 3 \\ 3 & 4 \end{bmatrix}$

(ii) $A = \begin{bmatrix} -2 & 5 \\ 3 & -6 \end{bmatrix}$ PAWAN

DETERMINANTS .

Q-1 Using matrix method solves the following equations.

$$x + y + z = 6, \quad y + 3z = 11, \quad x - 2y + z = 0$$

Q-2 If $A = \begin{bmatrix} 1 & 1 & 1 \\ 0 & 1 & 3 \\ 1 & -2 & 1 \end{bmatrix}$, $B = \begin{bmatrix} 7 & -3 & 2 \\ 3 & 0 & -3 \\ -1 & 3 & 1 \end{bmatrix}$ Find AB , Hence solve the system of Eqⁿs $y + 3z = 11, x + y + z = 6, x - 2y + z = 0$,

Q-3 If $A = \begin{bmatrix} 1 & 1 & 1 \\ 0 & 1 & 3 \\ 1 & -2 & 1 \end{bmatrix}$ find A^{-1} , hence $x + z = 4$, $x + y - 2z = -3$, $x + 3y + z = 10$

Q-4 If a, b, c , are positive and unequal, show that the following determinant is negative:

$$\Delta = \begin{vmatrix} a & b & c \\ b & c & a \\ c & a & b \end{vmatrix} \text{ Q-5 Using properties of det. Prove that } \begin{vmatrix} a & b & c \\ a-b & b-c & c-a \\ b+c & c+a & a+b \end{vmatrix} = a^3 + b^3 + c^3 - 3abc$$

Q-6 Using properties of det. Prove that $\begin{vmatrix} b^2c^2 & bc & b+c \\ c^2a^2 & ca & c+a \\ a^2b^2 & ab & a+b \end{vmatrix} = 0$

Q-7 Using properties of det. Prove that $\begin{vmatrix} -bc & b^2 + bc & c^2 + bc \\ a^2 + ac & -ac & c^2 + ac \\ a^2 + ab & b^2 + ab & -ab \end{vmatrix} = (ab + bc + ca)^3$

Q-8 Using properties of det. Prove that $\begin{vmatrix} (y+z)^2 & xy & xz \\ xy & (x+z)^2 & yz \\ xz & yz & (x+y)^2 \end{vmatrix} = 2xyz(x+y+z)^2$

Q-9 Using properties of det. Prove that $\begin{vmatrix} 1+a^2-b^2 & 2ab & -2b \\ 2ab & 1-a^2+b^2 & 2a \\ 2b & -2a & 1-a^2-b^2 \end{vmatrix} = (1+a^2+b^2)^3$ PAWAN

Q-10 Using properties of determinants prove that (i) $x \neq y \neq z$, & $\begin{vmatrix} x & x^2 & 1+x^3 \\ y & y^2 & 1+y^3 \\ z & z^2 & 1+z^3 \end{vmatrix} = 0$,

then prove that $1+xyz=0$ (ii) $\begin{vmatrix} a & b-c & c+b \\ a+c & b & c-a \\ a-b & b+a & c \end{vmatrix} = (a+b+c)(a^2+b^2+c^2)$

(iii) $\begin{vmatrix} a & a+b & a+b+c \\ 2a & 3a+2b & 4a+3b+2c \\ 2a & 6a+3b & 10a+6b+3c \end{vmatrix} = a^3$ (iv) $\begin{vmatrix} 0 & a-b & a-c \\ b-a & 0 & b-c \\ c-a & c-b & 0 \end{vmatrix} = 0$

(v) $\begin{vmatrix} a+b & b+c & c+a \\ b+c & c+a & a+b \\ c+a & a+b & c+a \end{vmatrix} = 2 \begin{vmatrix} a & b & c \\ b & c & a \\ c & a & b \end{vmatrix}$

(vi) $\begin{vmatrix} a & a+b & a+2b \\ a+2b & a & a+b \\ a+b & a+2b & a \end{vmatrix} = 9(a+b)b^2$ (vii) $\begin{vmatrix} a^2 & 2ab & b^2 \\ b^2 & a^2 & 2ab \\ 2ab & b^2 & a^2 \end{vmatrix} =$

$(a^3+b^3)^2$ (viii) $\begin{vmatrix} \sin\theta & \cos\theta & \sin 2\theta \\ \sin\left(\theta + \frac{2\pi}{3}\right) & \cos\left(\theta + \frac{2\pi}{3}\right) & \sin\left(2\theta + \frac{4\pi}{3}\right) \\ \sin\left(\theta - \frac{2\pi}{3}\right) & \cos\left(\theta - \frac{2\pi}{3}\right) & \sin\left(2\theta - \frac{4\pi}{3}\right) \end{vmatrix} = 0$ Q-11 Using properties of

determinants solve the following for X (i) $\begin{vmatrix} x-2 & 2x-3 & 3x-4 \\ x-4 & 2x-9 & 3x-16 \\ x-8 & 2x-27 & 3x-64 \end{vmatrix} = 0$ (ii)

$\begin{vmatrix} x+a & x & x \\ x & x+a & x \\ x & x & x+a \end{vmatrix} = 0$

CLASS XII SUB: PHYSICS

One investigatory project is to be performed from the following list of suggested projects or from any topic related to senior school physics.

1. To study the quality of detergents by capillary rise method.
2. To study the effect of temperature on surface tension of liquids.

3. To study the factors affecting the rate of loss of heat of a liquid.
4. To study the breaking stress of different materials of varying diameter.
5. To study the Inter conversion of potential and kinetic energy.
6. To determine the specific heat capacity of liquids.
7. To study the factors affecting the range and height of a projectile.
8. To study the factors affecting the coefficient of friction between 2 surfaces.
9. To study the factors affecting the time period of a simple pendulum.
10. To determine Faraday's constant.
11. To determine electrochemical equivalent of a material.
12. To study the validity of ohm's law for different types of material.
13. To study various factors on which the internal resistance /emf of a cell depends.
14. To study variations, in current flowing in a circuit containing a LDR , because of variation.
 - a. In the power of the incandescent lamp used to 'illuminate' the LDR. (keeping all the lamps at a fixed distance)
 - b. In the distance of an incandescent lamp, (of fixed power), used to 'illuminate' the LDR.
15. To find the refractive indices of (a) water (b) oil (transparent) using a plane mirror, an equiconvex lens, (made from a glass of known refractive index) and an adjustable object needle.
16. To design an appropriate logic gate combination for a given truth table.
17. To investigate the relation between the ratio of

- a. Output and input voltage.
 - b. Number of turns in the secondary coil of a self designed transformer.
18. To investigate the dependence, of the angle of deviation, the angle of incidence, using a hollow prism filled, one by one, with different transparent fluids.
19. To estimate the charge induced on each one of the 2 identical styro foam (or pith) balls suspended in a vertical plane by making use of columb's law.
20. To set up a common base transistor circuit and to study its input and output characteristics and to calculate its current gain.
21. To study the factor, on which the self inductance of a coil depends, by observing the effect of this coil, when put in series with a resistor/ (bulb) in a circuit fed up by an a.c. source of adjustable frequency.
22. To construct a switch using a transistor and to draw the graph b/w the input and output voltage and mark the cut off, saturation and active regions.
23. To study the earth's magnetic field using a tangent galvanometer.

HOLIDAY ASSIGNMENT (2019)

CLASS XII

ECONOMICS

- Q.1. What was the state of Indian agriculture at the time of independence?
- Q.2. “Agriculture is the backbone of Indian economy”. Substantiate this statement.
- Q.3. Distinguish between equal and equitable distribution of income. Which one is more important and why?
- Q.4. Briefly analyze the major changes in the composition of India’s foreign trade since independence.
- Q.5. State features of economic policy as pursued in India till 1991.
- Q.6. Write short notes on :
- (a) Green revolution in India
 - (b) Importance of large scale industries.
- Q.7. Evaluate fiscal reforms introduced under new economic policy .
- Q.8. Write your observations on the financial reforms introduced under new economic policy.
- Q.9. Promoting privatization is the objective of new economic policy .Discuss. Also state the measures taken to promote privatization.
- Q.10. Critically examine the strategy of industrialization during the period 1950- 90.
- Q.11. Explain the need for new economic reforms.
- Q.12. State whether the following statements are true or false. Give reasons for your answer.
- (a) Indian economy at the time of independence was an industrial economy.
 - (b) Consistent increase in GDP always implies a rise in per capita availability of goods and services to the residents of a country.
- Q.13. Explain the principal features of Industrial policy as adopted in 1956.
- Q.14. State the various forms of colonial exploitation of the Indian economy during the British Raj.
- Q.15. What is meant by Small Scale Industries? Explain its significance of these industries in achieving the employment equity goals in India.

INFORMATICS PRACTICES

Q I MYSQL Questions

1) If a database “Employee” exists, which MySQL command helps you to start working in that database?

2) Sahil created a table in MySQL. Later on he found that there should have been another column in the table. Which command should he use to add another column to the table?

3) Pooja, a student of class XI, created a table “Book”. Price is a column of this table. To find the details of books whose prices have not been entered she wrote the following query :

```
Select * from Book where Price = NULL;
```

Help Pooja to run the query by removing the errors from the query and rewriting it.

4) Rama is not able to change a value in a column to NULL. What constraint did she specify when she created the table?

5) A table “Stock” in a database has 5 columns and contains 17 records. What is the degree and cardinality of this table?

6) Which command is used in MySQL to make changes in the existing records.

7) In a Student table, out of RollNumber, Name, Address which column can be set as Primary key and why?

8) Ravi is working in the School database. He wants to see what are the tables in the School database. Which MySQL command will he use to see the list of available tables.

9) Nidhi created a table called Supplier in MySQL. She does not require the email_id

column available in the Supplier table. Which command will she issue to remove the email_id from the Supplier table.

10) What is the difference between “%” and “_” wild card characters with reference to LIKE clause of MySQL?

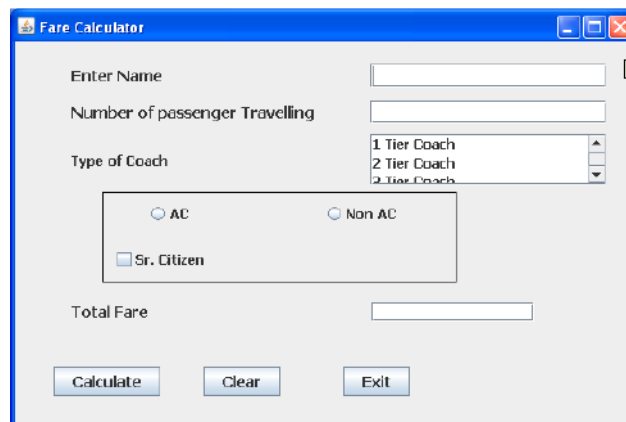
11) Name a function of MySQL used to give the first occurrence of a string2 in string1.

12) What is the difference between UPDATE and ALTER TABLE?

Q II NETBEANS

Q.1 Design GUI desktop applications for following:-

Q Mr. Krishnav is working with railways and he has to design an application which can calculate the total fare. The following is the Fare Calculator along with details: (Use only defaults name for the controls i.e. Swing Components)



- a. Write the code for exit button so that when a user clicks on exit button Application will be closed. Also display a message “Thank you for your nice visit” before exiting the application.
- b. Write a code to calculate the total fare according to the given conditions:
 - i) The type of coach is selected by the user from the JList1 and the charges are for 1 tier coach Rs. 2000 per person , 2 tier coach Rs 1500 per person and for 3 tier coach 1000 per person.

- ii) If the person is travelling in AC coach then increase the fare by 20%.
- iii) If the person is senior citizen the fare will be 50%.
- iv) The total fare will be number of passenger travelling multiply by fare calculated per seat.

c Write the property which is prerequisite for radio button.

Q 2 Blue Valley Public School has computerised its registration for class XI students. Given below is the data entry form for same.

The image shows a Java Swing window with a blue title bar and standard window controls. The window contains a data entry form with the following elements:

- Adno:** A text field labeled "jTextField1".
- Name:** A text field labeled "jTextField2".
- Stream:** A label followed by four radio buttons: "Commerce", "Arts", "Med", and "Non Med".
- Computer:** A checkbox labeled "Computer".
- Total Fee:** A label positioned to the left of a text field labeled "jTextField3".
- Buttons:** Four buttons at the bottom: "Initial", "Clear", "Calculate", and "End".

i) On clicking the initial button the jTextField1 and jTextField2 editable property should be set to false.

ii) On clicking the Calculate button the jTextField1 and jTextField2 editable property should be set to true. The Total Fee is calculated on the basis of the following criteria:

Stream	Fee(Rs.)
Commerce	3500
Arts	3000
Medical	3900
Non Medical	3800

The Fee should be displayed in jTextField3

If the student has opted for Computers Rs. 500 will be added to the Total Fee. The Total Fee should be displayed in jTextField3.

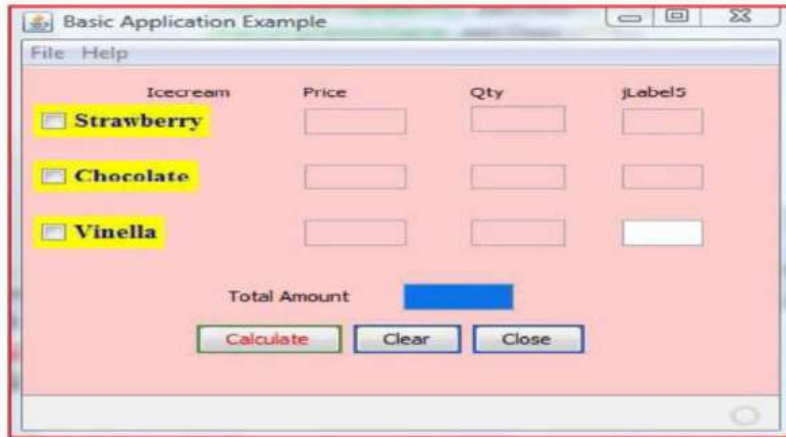
iii) On Clicking the End button the application will be closed.

Q3

3. Assume the following interface built using Netbeans used for bill calculation of a ice-cream parlor. The parlor offers three varieties of ice-cream – vanilla, strawberry, chocolate. Vanilla icecream costs Rs. 30, Strawberry Rs. 35 and Chocolate Rs. 50. A customer can chose one or more ice-creams, with quantities more than one for each of the variety chosen. To calculate the bill parlor manager selects the appropriate check boxes according to the varieties of ice-cream chosen by the customer and enter their respective quantities.

Write Java code for the following:

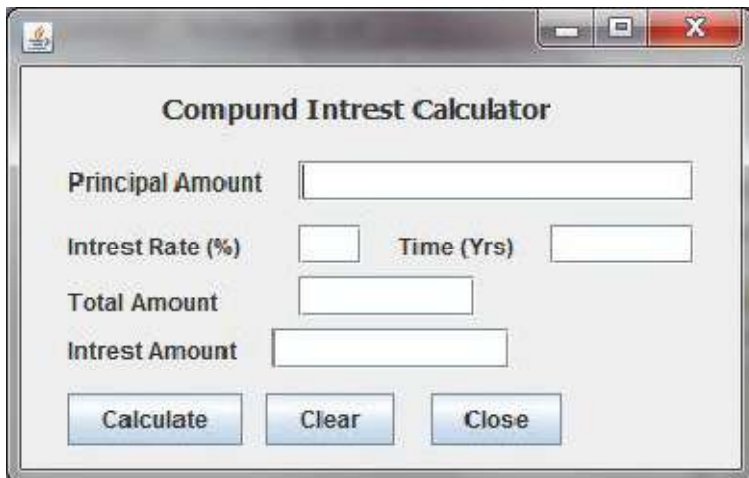
- On the click event of the button 'Calculate', the application finds and displays the total bill of the customer. It first displays the rate of various ice-creams in the respective text fields. If a user doesn't select a check box, the respective ice-cream rate must become zero. The bill is calculated by multiplying the various quantities with their respective rate and later adding them all.
- On the Click event of the clear button all the text fields and the check boxes get cleared.
- On the click event of the close button the application gets closed.



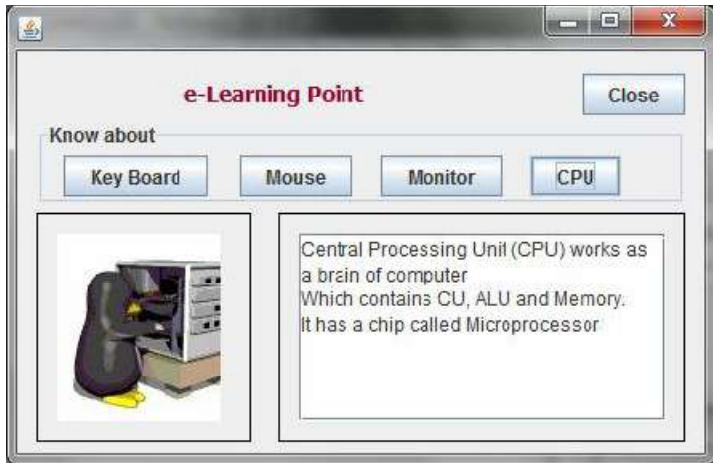
Q 4 Develop a Billing application for Happy Shopping- A retail chain involved in sales of Readymade garments. The happy Shopping offers discount to its members holding Platinum, Gold and Silver card. The 10% discount is given to Platinum card, 8% to Gold Card and 5% to Silver Card holders on sales amount.



Q 5 Develop a Compound Interest Calculator application as per given screen snapshot, to calculate total amount for given Amount, Rate of Interest and Time using $(A=P(1+R/100)^T)$ and Interest $I=A-P$.



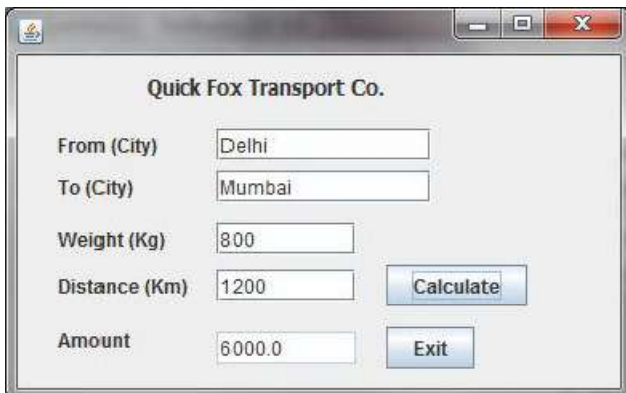
Q 6 Develop an e-Learning application with images and text information as per given screen shot.



Q 7 A Quick Fox Transport Co. wants to develop an application for calculating amount based on distance and weight of goods.

The charges (Amount) to be calculated as per rates given below.

Distance	Weight	Charges per Km.
	≥ 100 kg.	Rs. 7/-
≥ 500 Km	< 100 kg.	Rs. 6/-
< 500 Km	≥ 100 Kg.	Rs.8/-
	< 100 Kg.	Rs.5/-



QIII Read CH-8 MYSQL Revision Tour.

- A) Solve the crossword puzzle on pg.263
- B) Do the lab exercise and write the command neatly in your practical register (pg.266 to 269).

QIV Read chapter-7 Web Applications

- A) Write HTML code for web pages given on pg.238.
- B) Give the output of HTML code given in Q3 pg.240.

Q V Develop a project using Programming and Database skills learnt during the course. The project should be an application in any one of the following domains, - e-Governance, e-Business and e-Learning with GUI front-end corresponding database at the back-end.

Project Work

Sample Project : Student Information System, Shopping Mall, Banking, Payroll, Digital Contact Diary, Hotel Reservation System, Airways Booking System, Railways System, etc...

Data Collection and analysis:

- Choose any system as your project for XII (a batch of two maximum)
- Collect data about the project(bills, reports, admission forms, etc.)
- Analyze the design screen and validations of forms (to clear, disable the components, check for negative values, check for blanks, etc.)

System Development (Coding)

- Design the First Screen – with related picture, title with an impressive font and an Enter button.
- Second Screen – as a Login Screen.
- Other Screens related to your project including ADD, DELETE, MODIFY and SEARCH.

Note : Submit the project in a CD .

Your Project should cover the following specifications:

- Project Title(name of the project, roll no, class)
- Acknowledgement
- Certificate
- Introduction to project
- Software and hardware required (including Operating system)
- Bibliography

QVI Revise the syllabus covered for test.

(*NOTE:Questions I to IV to be done in the practical register.)

ACCOUNTANCY

Class XII

- Q1. Why is the General Reserve distributed among old partners before a new partner is admitted? (1)
- Q2. Differentiate between Average profit and Super profit. (1)
- Q3. A and B share profits and losses in the ratio of 4 : 3. They admit C with $\frac{3}{7}$ th share, which he gets $\frac{2}{7}$ th from A and $\frac{1}{7}$ th from B. What is the new profit sharing ratio? (1)
- Q4. Give two circumstances under which the Fixed Capitals of partners may change. (1)
- Q5. R, S and T entered into a partnership for manufacturing and distributing educational CDs on April 1, 2006. R looked after the business development, S content development and T financed the project. At the end of the year, S wanted 50% share in profit for the intellectual work he did. The other partners were not inclined to this. How would you resolve this on the basis of the provisions of Indian Partnership Act,1932? (1)
- Q6. The partnership deed provides that Alok, the partner, will get Rs.10,000 per month as salary. But, the remaining partners object to it. How will this matter be resolved? (1)

Q7. A and B are partners sharing profits in the ratio of 3 : 2. A surrenders $\frac{1}{6}$ th of his share and B surrenders $\frac{1}{4}$ th of his share in favour of C, a new partner. What is the new ratio and the sacrificing ratio? (1)

Q8. A, B and C are partners sharing in the ratio of 3 : 2 : 1. They admit D for $\frac{1}{6}$ th share. B would retain his original share. Calculate new profit sharing ratio. (1)

Q9. X and Y are partners in a firm sharing profits and losses in the ratio of 4 : 3. On April 1, 2009, they admitted Z as a new partner. Z brought in Rs.80,000 for his capital and Rs.21,000 for $\frac{1}{3}$ rd share of goodwill premium. On Z's admission, goodwill appeared in books at Rs.28,000. Record necessary journal entries on Z's admission. (3)

Q10. A, B and C are partners in a firm. Though there is no provision in the partnership deed for interest on capital, this has been provided in the accounts @ 10% p.a. for two years ended on 31st December,2009. Their Fixed capitals on which interest was calculated were throughout – A Rs.15,000; B Rs.12,000 and C Rs.9,000. Their profit sharing ratio is 2 : 2 :1. Pass necessary journal entry. (3)

Q11. Ajit and Baljit were sharing profits in the ratio of 3 : 2. They decided to admit Pratap into the partnership for $\frac{1}{6}$ th share of the future profits. Goodwill, valued at four times the super profits of the firm, was Rs.18,000. The firm had assets worth Rs.15 Lakhs and Liabilities Rs.12 Lakhs. The normal earning capacity of such firms is expected to be 10% p.a. Find the average profits earned by the firm during the last four years. (3)

Q12. Prepare partners Capital Accounts for the year ended March 31, 2010:-

- (i) Initial Capital introduced on 1st April,2008: A –Rs. 30,000; B – Rs. 15,000 and C Rs.20,000.
- (ii) Total Drawings during the year : A – Rs.3,000; B – Rs.1,500; and C – Rs. 2,000.
- (iii) A and B claim a fixed salary of Rs.5,000 p.a. and Rs.6,000 p.a. Respectively(agreed by all partners).

(iv) C is allowed to claim commission @ 5% on gross sales which are Rs.2,20,000.

(v) Share of profit: A – Rs. 4,000; B – Rs.2,000; and C – Rs.2,000. (3)

Q13. Hari, Ravi and Kavi were partners in a firm sharing profits in the ratio of 3 : 2 : 1. They admitted Gargi as a new partner for $\frac{1}{7}$ th share in the profits. The new profit sharing ratio will be 2 : 2 : 2 : 1 respectively. Gargi brought Rs.3,00,000 for her capital and Rs.45,000 for her $\frac{1}{7}$ th share of goodwill. Pass necessary journal entries in the books of the firm. (3)

Q14. A firm earns profits of Rs.1,00,000. The Normal rate of return in a similar type of business is 10%. The value of total assets (excluding Goodwill) and total liabilities as on the date of valuation of goodwill are Rs.12,00,000 and Rs.3,80,000 respectively. Calculate the value of goodwill according to capitalization of super profit method. (3)

Q15. X, Y and Z are in partnership sharing profits and losses in the ratio of 5 : 4 : 1. Two new partners R and S join the firm. The profits are now to be shared in the ratio of 3 : 4 : 2 : 2 : 1 respectively. R is to pay Rs.30,000 for his share of goodwill and S has insufficient cash to pay for goodwill. Both new partners introduced Rs.1,00,000 each as their capital. You are required to pass necessary journal entries. (4)

Q16. Ashok and Rajesh are partners sharing profits in the ratio of 7 : 3. Their capitals on 1st January,2008 were Rs.80,000 and Rs.60,000 respectively. They admitted Vijay into partnership on that date giving him a $\frac{1}{5}$ th share in the future profits, which he acquired equally from Ashok and Rajesh. Vijay is to bring in Rs.50,000 as his share of capital. Find new profit sharing ratio and record necessary journal entries. (4)

Q17. X, Y and Z are partners in a firm sharing profits and losses in the ratio of 5 : 3 : 2. Their fixed capitals were Rs.3,00,000, Rs.2,00,000 and rs.1,00,000 respectively. For the year 2008-09 interest on capital was credited to them @ 10% p.a. instead of 8%. Pass necessary adjustment entry. (4)

Q18. P,Q and R are partners in a firm. Their capital accounts stood at Rs.30,000, Rs.15,000 and Rs.15,000 respectively on 1st January, 2009. As per the provisions of the deed:-

(i) R was to be allowed a remuneration of Rs.3,000 p.a.;

(ii) Interest @ 5 % p.a. was to be provided on capital;

- (iii) Profits were to be divided in 2 : 2 : 1.

Ignoring the above terms, net profit of Rs.18,000 for the year ended December 31, 2009 was divided among the three partners equally.

Pass an adjustment entry. (4)

Q19. X and Y started a partnership business on 1st April, 2009. They contributed Rs.80,000 and Rs.60,000 respectively as their capitals. The terms of the partnership agreement are as follows:

- (i) 20% of profits (before any appropriations) is to be transferred to General Reserve.
- (ii) Interest on capital @ 12% p.a. and interest on drawings @ 10% p.a.
- (iii) X and Y to get a monthly salary of Rs.2,000 and Rs.3,000 respectively.
- (iv) X is entitled to a commission of Rs.7,000.
- (v) Profits and losses are to be shared in capital ratio.

Profit for the year ended 31st March,2010, before making above appropriations was Rs.1,25,375.

The drawings of X and Y were Rs.40,000 and Rs.50,000 respectively.

Prepare Profit and loss Appropriation A/c. (4)

Q20. Usha and Asha are in partnership in the ratio 3 : 2. Neelam is admitted into partnership giving her 1/5th share in profits. Neelam is to bring in Rs.30,000 as her capital and her share of goodwill in cash subject to the following terms:-

- (i) Goodwill of the firm is valued at Rs.50,000.
- (ii) Stock is to be reduced by Rs.3,000 and Provision for Bad Debts is to be reduced by Rs.2,400.
- (iii) There was a claim against the firm for damages amounting to Rs.2,000. The claim has now been accepted.

Pass necessary journal entries. (4)

PHYSICAL EDUCATION-XII

Practical file

Practical-1 - Modified AAHPER administration for all items.

Practical-2 - Skill of any one team game of choice from given list*

(Athletics, Basketball, Football, Handball, Hockey, kho kho, and Volleyball,cricket,).

Practical-3- Senior citizen fitness test for 5 elderly family members.

Practical-4- Procedure for asana, benefits and contraindication for any two asanas each lifestyle disease.

Practice questions-

Q 1. Our school is going to organize football school national tournament. How will you manage the entire things for the successful conduction of the tournament?

Q2. Discuss about the various types of tournaments with their advantages and disadvantages in detail.

Q3. Draw the fixture of 16 teams on knock-out basis.

Q4. Draw the fixture of 19 teams on knock-out with the special seeding of 4 teams.

Q5. Draw the fixture of 18 teams on knock-cum-league basis.

Q6. Draw the fixture of 7 teams on league basis.

Q7. Draw the fixture of 10 teams on league basis.

Q8. Draw the fixture of 6 teams on double league basis.

Q9. What do you mean by intramural and extramural? Mention the significance of intramural and extramural.

Q10. What do you mean by specific sports programmes? Explain about health runs and run for unity in detail.

Q11. What do mean by planning? Elucidate the objectives of planning in sports in detail.

Q12. Discuss about knock-out cum league and league cum knock-out methods.

Q13. What do you understand by term SEEDING? Explain the methods of distributing seeding.

Q14. Discuss about various types of consolation tournaments in detail.

Q15. Discuss about the process of creating or making leaders through physical education.

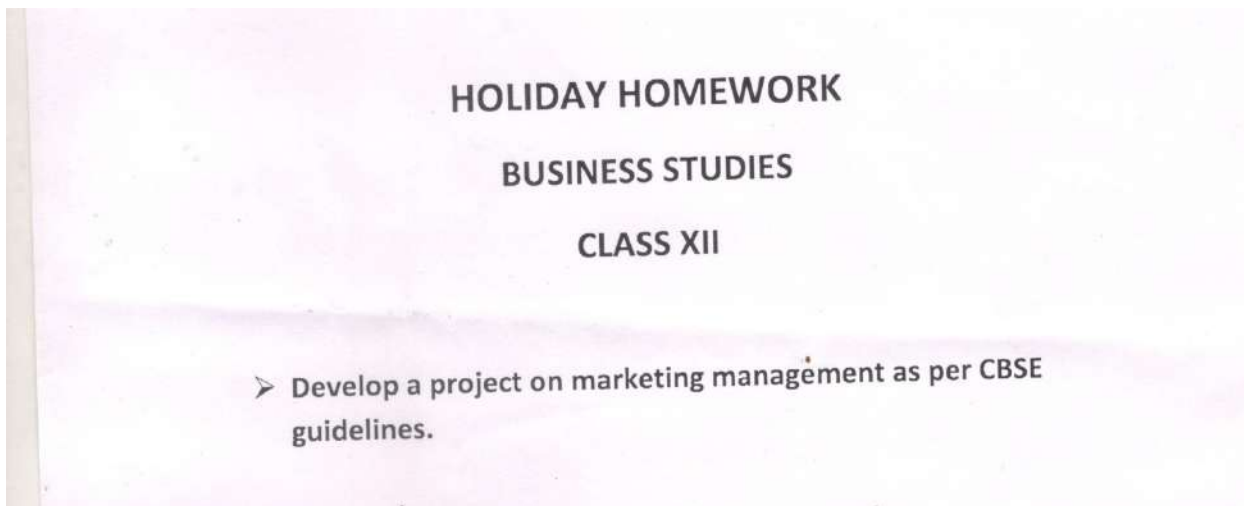
Q16. Explain in detail about diabetes.

Q17. Discuss in detail about the challenging tournaments.

Q18. What do you understand by consolation tournament? Draw the consolation fixture type-II for 15 teams.

Q19. What do you mean by food supplement? Describe the precautions for taking food supplements.

Q20. Discuss the benefits of asanas for prevention of diseases in brief.



**POLITICAL SCIENCE
CLASS XII**

1. Prepare a project report on any one of the following topics, using newspaper clippings, photographs, statistical data, and factual information:
 - a) Terrorism as a measure to fulfil the unregulated demands within and outside the country.

OR

- b) Depletion of environment as a product of development.
2. Maintain a notebook incorporating daily news headlines with clippings and summary of the same.

GEOGRAPHY

PRABHU DAYAL PUBLIC SCHOOL
Summer Vacation Assignment
Subject-Geography
Class-XII

Q 1 "Physical environment is not deterministic but offers many opportunities to man". Justify the statement by giving any three points in the light of Possibilism.

Q 2 "There is neither a situation of absolute necessity nor is there a condition of absolute freedom". Justify the statement by giving any three points in the light of Neo-Determinism.

Q 3 In the present day world which is more relevant Naturalisation of Humans or Humanisation of Nature? Justify your answer.

Q 4 The distribution of population in the world is highly uneven. Discuss the factors responsible for such a pattern of population distribution.

Q 5 Study the map given below and answer the questions that follow:

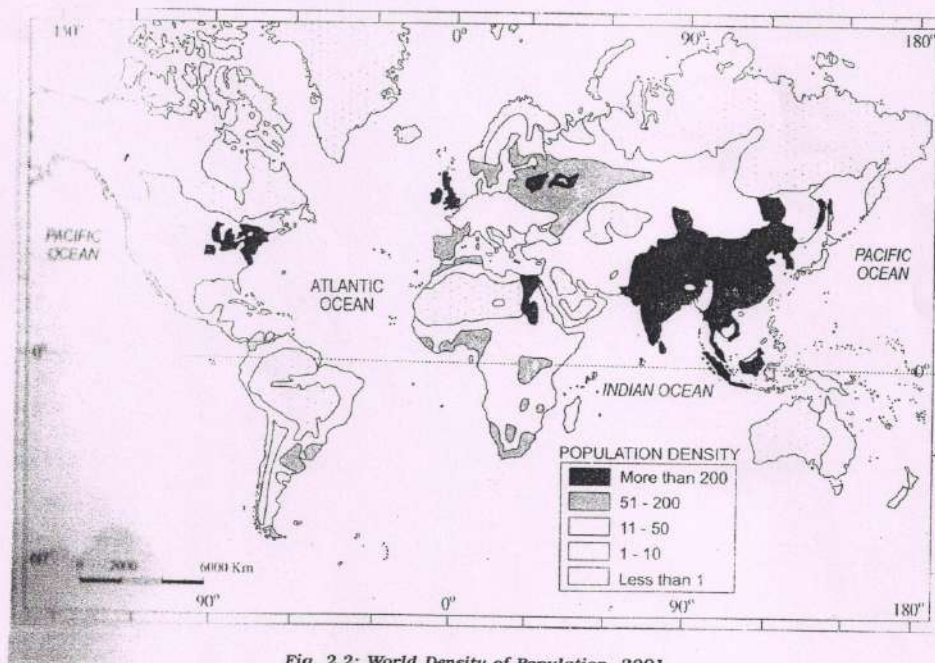


Fig. 2.2: World Density of Population, 2001

- a) Name the countries from different parts of the world having highest population density and also mention the reasons behind their highest population density.
- b) Name the countries from different parts of the world having lowest population density and also mention the reasons behind their lowest population density.

c) Name the countries from different parts of the world having moderate population density and also mention the reasons behind their moderate population density.

Q 6 Why some areas of the world have high density of population whereas others have very low density of population? Explain two main reasons with suitable examples.

Q 7 Study the map given below and answer the questions that follow:

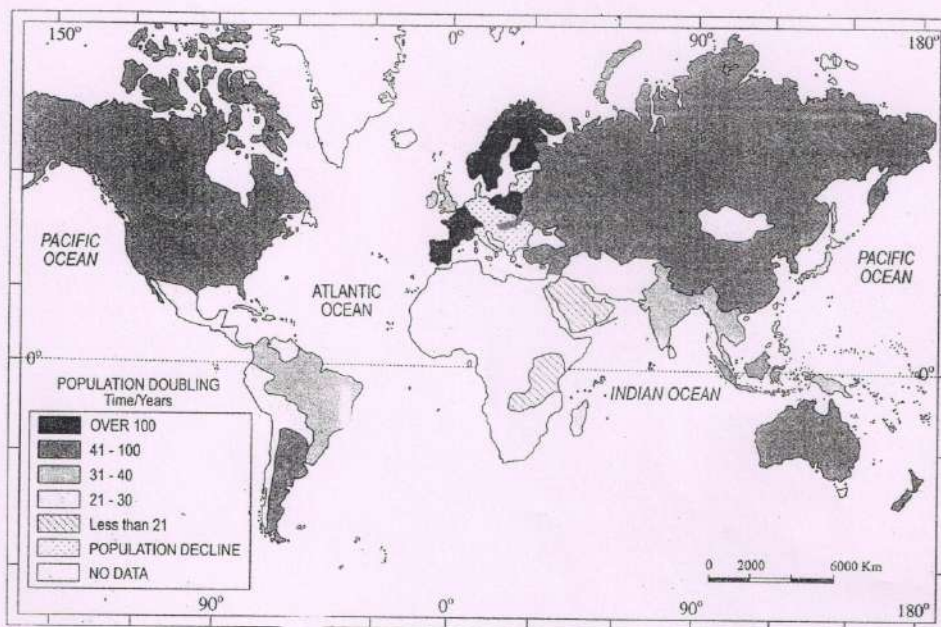
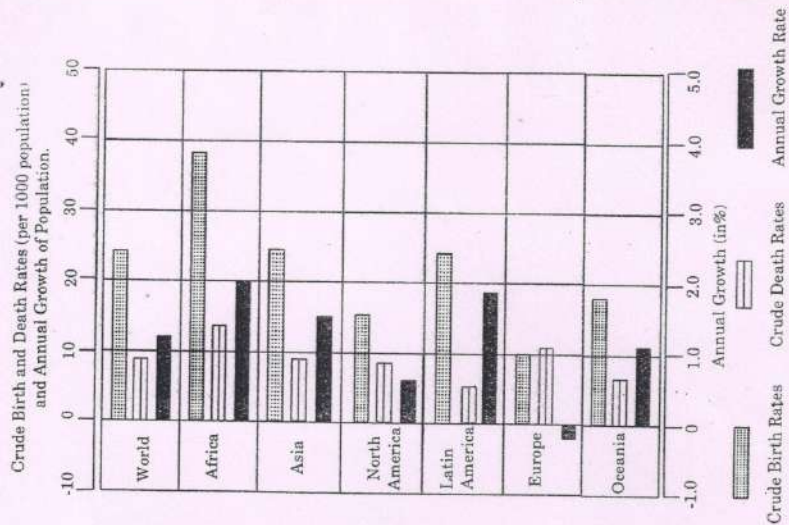


Figure 2.4: Population Doubling Time

- Which countries face decline in population? Give reasons.
- Which countries take longest time to double their population? Give reasons.
- Which countries in Africa take least time to double their population? Give reasons.

Q 8 Study the diagram given on next page and answer the following questions:

- Name the continent which has the highest annual growth rate.
- Mention two factors responsible for this situation.
- Name the continent that has negative annual growth rate and why?



Q 9 What is the importance of studying population composition or demographic structure of population?

Q 10 Why sex ratio is favourable in European countries?

Q 11 Name the countries having highest and lowest sex ratio in the world along with their values. Mention the reasons also.

Q 12 Which age group is economically most important?

Q 13 Study the diagrams given below and answer the questions that follow:

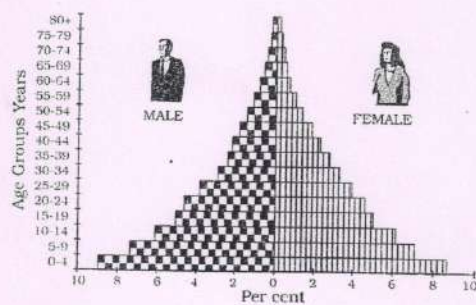


Fig 1

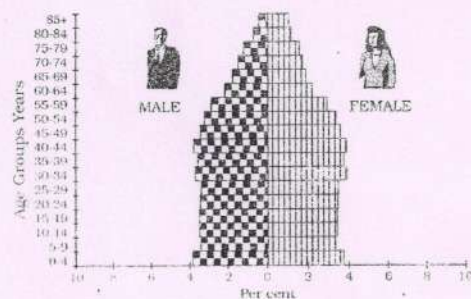


Fig 2

1. What is the shape of the pyramid shown in Fig. 1 and 2?
2. Name the countries to which pyramid 1 and 2 belong to.
3. What type of characteristics of population are revealed by pyramid 1 and 2?

Q 14 The rural urban variations in sex ratio in Canada and West European countries is just the opposite of those in Asia and Africa. Discuss.

Q 15 Why is the study of Human development necessary?

Q 16 Read the paragraph given below and answer the following questions:

Equity refers to making equal access to opportunities available to everybody. The opportunities available to people must be equal irrespective of their gender, race, income and in the Indian case, caste. Yet this is very often not the case and happens in almost every society.

- How do equal opportunities influence human development of any nation?
- Explain human development in the context of India.
- “Human beings are real wealth of a Nation” which aspect of human beings is focussed in the statement.

Q 17 How attainments and shortfalls in human development are measured?

Q 18 Describe any five salient features of ‘Market Gardening and Horticulture’ practiced in the world keeping the following given points in view.

- Meaning of Market Gardening and Horticulture
- Capital Investment
- Transportation
- Major Emphasis
- Main regions of Market Gardening and Horticulture

Q 19 Study the diagram given below and answer the questions that follow:

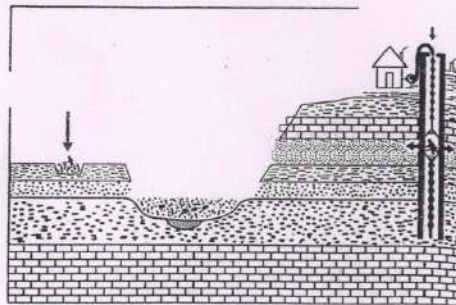


Fig. 5.19: Methods of Mining

- Two types of mining are shown as A and B. Identify them and give correct names of each.
- State two characteristics of each type of mining.

Q20 Study the map given below and answer the questions that follow:

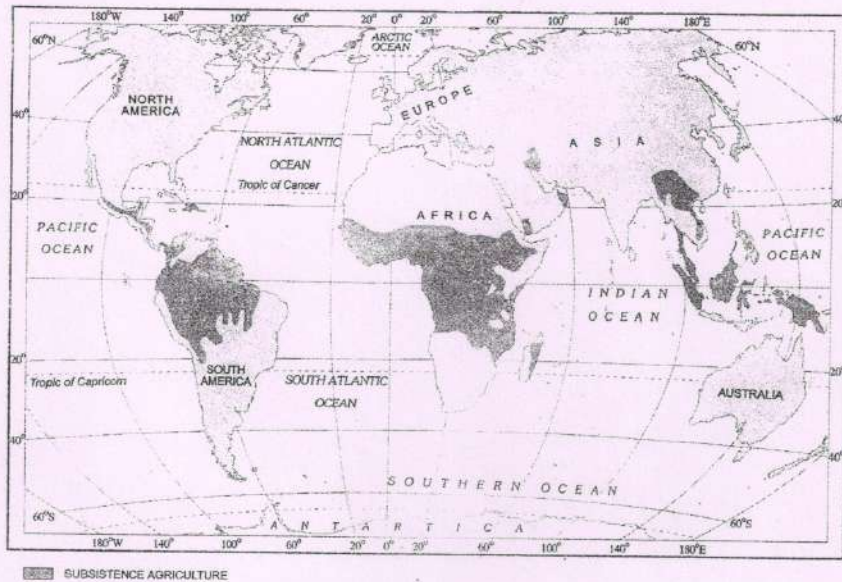
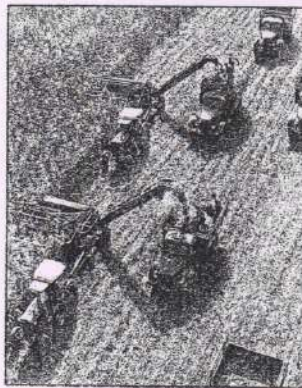


Fig. 5.7: Areas of Primitive Subsistence Agriculture

1. Name the Primitive Subsistence agriculture regions marked as A and B.
2. State three characteristics of Primitive Subsistence agriculture
3. State the major problem of Primitive Subsistence agriculture

Q 21 Study the picture given below and answer the questions that follow:



1. Identify and name the agriculture shown in the picture.
2. Mention the areas where this agriculture is practised.
3. Write three important characteristics of this agriculture.

➤ **Practical Work**
Complete the Practical File

➤ Revise the syllabus covered so far for upcoming exam

1. अपनी पाठ्यपुस्तक में संकलित किसी एक साहित्यकार पर विस्तृत परियोजना तैयार कीजिए ।
2. प्रति सप्ताह के अविस्मरणीय अनुभवों को डायरी के रूप में लिखिए ।
3. अपने दादा - दादी एवं नाना - नानी के साथ-बिताए समय को लिपिबद्ध कीजिए ।
4. मई माह तक पढ़ाए गए सभी पाठों को समझकर याद कीजिए ।
5. किसी दर्शनीय स्थल का भ्रमण कर एक यात्रा-वृत्तान्त तैयार कीजिए ।
6. अपनी रुचि के दस विषयों पर निबंध लिखिए ।

Note - परियोजना कार्य को छोड़कर शेष कार्य अपने हिंदी के रजिस्टर में ही कीजिए ।