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2.5 Evaluation Process & Reforms

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Roll No - 5009 Mathematics (Diff Eqn) Date 3-2-2020

Class Test

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Q.1: Theorem - 1

By one function is known

→ Proof: = Let u be a complementary function is known

$$\frac{d^2y}{dx^2} + P \frac{dy}{dx} + Qy = R \quad \text{--- (1)}$$

$$y = u$$

$$\frac{d^2u}{dx^2} + P \frac{du}{dx} + Qu = R \quad \text{--- (2)}$$

$$y = u \cdot v$$

$$\frac{dy}{dx} = u \frac{dv}{dx} + v \frac{du}{dx}$$

$$\frac{d^2y}{dx^2} = u \frac{d^2v}{dx^2} + \frac{dv}{dx} \frac{du}{dx} + v \frac{d^2u}{dx^2} + \frac{du}{dx} \frac{dv}{dx}$$

$$\frac{d^2y}{dx^2} = u \frac{d^2v}{dx^2} + 2 \frac{dv}{dx} \frac{du}{dx} + v \frac{d^2u}{dx^2}$$

Put this value is in eqn (1)

$$\left(u \frac{d^2v}{dx^2} + 2 \frac{dv}{dx} \frac{du}{dx} + v \frac{d^2u}{dx^2} \right) + P \left(u \frac{dv}{dx} + v \frac{du}{dx} \right) + Qu \cdot v = R$$

$$u \frac{d^2v}{dx^2} + \left(2 \frac{du}{dx} + Pu \right) \frac{dv}{dx} + \left(v \frac{d^2u}{dx^2} + \frac{du}{dx} + Qu \right) v = R$$

$$u \frac{d^2v}{dn^2} + \left(2 \frac{du}{dn} + Pu \right) \frac{dv}{dn} + \left(\frac{d^2u}{dn^2} + \frac{du}{dn} + qu \right) v = R$$

Dividing by u

$$\frac{d^2v}{dn^2} + \left(\frac{2}{u} \frac{du}{dn} + P \right) \frac{dv}{dn} + \left(\frac{1}{u} \frac{d^2u}{dn^2} + \frac{1}{u} \frac{du}{dn} + q \right) v = \frac{R}{u}$$

~~$$\frac{d^2v}{dn^2} + \left(\frac{2}{u} \frac{du}{dn} + P \right) \frac{dv}{dn} = \frac{R}{u}$$~~

~~$$\frac{dv}{dn} = P' \quad \frac{d^2v}{dn^2} = \frac{dP'}{dn}$$~~

$$\frac{dP'}{dn} + \left(\frac{2}{u} \frac{du}{dn} + P \right) P' = \frac{R}{u} \quad \text{--- (3)}$$

which is linear in P'

So

~~$$I.F = e^{\int \left(\frac{2}{u} \frac{du}{dn} + P \right) dn}$$~~

~~$$= e^{2 \int \left(\frac{1}{u} \frac{du}{dn} + P \right) dn}$$~~

~~$$= e^{2 \int \frac{1}{u} du + \int P dn}$$~~

~~$$= e^{2 \log u + \int P dn}$$~~

~~$$= e^{\log u^2 + \int P dn}$$~~

$$I.F = u^2 e^{\int P dn}$$

$$P \times I.F = \int \frac{R}{u} u^2 e^{\int P dn} dn + C$$

$$P u^2 e^{\int P dx} = \int R u e^{\int P dx} dx + C$$

From this we get the value of P
 $\frac{dy}{dx}$ with integration we get.

q.2 Theorem - 2

Solution by removal of the first order derivative (solution by change of dependent variable)

Proof :-

$$\text{Let } \frac{d^2y}{dx^2} + P \frac{dy}{dx} + Qy = R \quad \text{--- (1)}$$

be linear second order differential eqn

$$\text{Put } y = u \cdot v$$

where u is not part of C.F

○

$$\frac{dy}{dx} = u \frac{dv}{dx} + v \frac{du}{dx}$$

$$\frac{d^2y}{dx^2} = u \frac{d^2v}{dx^2} + \frac{dv}{dx} \frac{du}{dx} + v \frac{d^2u}{dx^2} + \frac{du}{dx} \frac{dv}{dx}$$

$$\frac{d^2y}{dx^2} = u \frac{d^2v}{dx^2} + 2 \frac{dv}{dx} \frac{du}{dx} + v \frac{d^2u}{dx^2}$$

Put these values in eqn (1)

$$u \frac{d^2v}{dx^2} + 2 \frac{dv}{dx} \frac{du}{dx} + v \frac{d^2u}{dx^2} + P(u \frac{dv}{dx} + v \frac{du}{dx}) + Q(u \cdot v) = R$$

$$u \frac{d^2 v}{dn^2} + \left(2 \frac{du}{dn} + Pu \right) \frac{dv}{dn} + \left(\frac{d^2 u}{dn^2} + P \frac{du}{dn} + Qu \right) v = R$$

divided by u

$$\frac{d^2 v}{dn^2} + \left(\frac{2}{u} \frac{du}{dn} + P \right) \frac{dv}{dn} + \frac{1}{u} \left(\frac{d^2 u}{dn^2} + P \frac{du}{dn} + Qu \right) v = \frac{R}{u}$$

as $y = u$ is not a part of zero

$$\frac{2}{u} \frac{du}{dn} + P = 0$$

$$\frac{2}{u} \frac{du}{dn} = -P$$

$$\frac{du}{dn} = -\frac{Pu}{2}$$

$$\frac{du}{u} = -\frac{1}{2} P dn$$

Integrating on b.s

$$\int \frac{du}{u} = -\frac{1}{2} \int P dn$$

$$\log u = -\frac{1}{2} \int P dn$$

$$u = e^{-\frac{1}{2} \int P dn}$$

$$\frac{2}{u} \frac{du}{dn} + P = 0$$

$$\frac{du}{dn} = -\frac{Pu}{2}$$

$$\frac{du}{dn} = -\frac{1}{2} Pu$$

$$\frac{d^2u}{dn^2} = -\frac{1}{2} \left[P \frac{du}{dn} + u \frac{dP}{dn} \right]$$

$$= -\frac{1}{2} \left[P \left(-\frac{1}{2} Pu \right) + u \frac{dP}{dn} \right]$$

~~$$= -\frac{1}{2} \left[\frac{P^2 u}{2} + u \frac{dP}{dn} \right]$$~~

$$\frac{d^2u}{dn^2} = \frac{P^2 u}{4} - \frac{u}{2} \frac{dP}{dn}$$

Put this value in eqn (2)

~~$$\frac{d^2v}{dn^2} + \frac{1}{u} \left(\frac{P^2 u}{4} - \frac{u}{2} \frac{dP}{dn} - \frac{1}{2} P^2 u + qu \right) v = \frac{R}{u}$$~~

$$\frac{d^2v}{dn^2} + \left(\frac{P^2}{4} - \frac{1}{2} \frac{dP}{dn} - \frac{P^2}{2} + q \right) v = \frac{R}{u}$$

$$\frac{d^2v}{dn^2} + \left(q - \frac{P^2}{4} - \frac{1}{2} \frac{dP}{dn} \right) v = \frac{R}{u}$$

$$\frac{d^2v}{dn^2} + g_1 v = R_1 \quad - (3)$$

where,

$$g_1 = q - \frac{P^2}{4} - \frac{1}{2} \frac{dP}{dn}$$

$$R_1 = \frac{R}{u}$$

By solving eqⁿ (3) we get the value of v then complete solution of given differential eqⁿ (1) is $y = u \cdot v$ can be found.

Q.3 solve $\frac{d^2y}{dx^2} - 2 \tan x \frac{dy}{dx} + 3y = \sec x$

IF $y = \sin x$ is known part of C.F

Ans- $\frac{d^2y}{dx^2} + P \frac{dy}{dx} + Qy = R$

$P = -2 \tan x \quad Q = 3 \quad R = \sec x$

~~$$\begin{aligned}
 z^{-1} &= e^{\int P dx} \\
 &= e^{\int -2 \tan x dx} \\
 &= e^{\int \frac{-2 \sin x}{\cos x} dx} \\
 &= e^{-2 \log \cos x} \\
 &= e
 \end{aligned}$$~~

Q.4 solve $\frac{d^2y}{dx^2} - 4x \frac{dy}{dx} + (4x^2 - 1)y = -3e^{x^2} \sin 2x$

$$P_1 = -4x \quad Q_1 = 4x^2 - 1 \quad R_1 = -3e^{x^2} \sin 2x$$

$$\cancel{I.F.} = e^{-\int P_1 dx}$$

$$= e^{-\int -4x dx}$$

$$= e^{+2x}$$

$$\cancel{I.F.} = e^{x^2}$$

$$\frac{d^2v}{dx^2} + Q_1 v = R_1$$

$$Q_1 = Q - \frac{1}{2} \frac{dP}{dx} - \frac{1}{4} P^2$$

$$= 4x^2 - 1 - \frac{1}{2}(-2) - \frac{1}{4}(16x^2)$$

$$= 4x^2 - 1 + 1 - 4x^2$$

$$Q_1 = 0$$

$$R_1 = \frac{R}{I.F.} = \frac{-3e^{x^2} \sin 2x}{e^{x^2}} = -3 \sin 2x$$

$$\frac{d^2v}{dx^2} + Q_1 v = R_1$$

$$\frac{d^2v}{dx^2} + 1v = -3 \sin 2x$$

$$(D^2 + 1)v = 0$$

$$D^2 = -1$$

$$D = \pm i$$

$$C.F = e^{0x} (C_1 \cos x + C_2 \sin x)$$

$$P.I = \frac{1}{D^2 + 1} - 3 \sin 2x$$

$$= \frac{1}{-4 + 1} - 3 \sin 2x$$

$$= \frac{1}{-3} - 3 \sin 2x$$

$$P.I = \sin 2x$$

$$G.S = e^{0x} (C_1 \cos x + C_2 \sin x) + \sin 2x$$

$$V = e^{0x} (C_1 \cos x + C_2 \sin x) + \sin 2x$$

Now complete solution.

$$y = u \cdot v$$

$$y = e^{x^2} [e^{0x} (C_1 \cos x + C_2 \sin x) + \sin 2x]$$

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[Signature]

① Theorem First :-

→ ~~Proof~~: Complete solution when one integral belonging to complementary function is known.

→ Proof: If part of complementary function of linear second order diff. equation is known then it is possible to find the complete solution of given equation.

Let $y = u$ be a known part of complementary function of given equation.

②
$$\frac{d^2y}{dx^2} + P \frac{dy}{dx} + Qy = R \quad \text{--- (1)}$$

Let $y = u$ is general solⁿ of equation

①. Hence

$$\frac{d^2u}{dx^2} + P \frac{du}{dx} + Qu = 0 \quad \text{--- (2)}$$

But $y = u \cdot v$ be a complete solⁿ of equation ①

$$\frac{dy}{dx} = u \frac{dv}{dx} + v \frac{du}{dx}$$

$$\frac{d^2y}{dx^2} = \frac{d}{dx} u \frac{d^2v}{dx^2} + 2 \frac{dy}{dx} \frac{dv}{dx} + v \frac{d^2u}{dx^2}$$

put the values of dy/dx and d^2y/dx^2 in equation (1), we get

$$u \frac{d^2v}{dx^2} + 2 \frac{dy}{dx} \frac{dv}{dx} + v \frac{d^2u}{dx^2} + p \left(u \frac{dv}{dx} + v \frac{du}{dx} \right) +$$

$$\textcircled{2} u \cdot v = R$$

$$u \frac{d^2v}{dx^2} + \left(2 \frac{dy}{dx} + pu \right) \frac{dv}{dx} + \left(\frac{d^2u}{dx^2} + p \frac{du}{dx} + qu \right) v = R$$

From equation (2) the coefficient of v becomes zero.

$$u \frac{d^2v}{dx^2} + \left(2 \frac{dy}{dx} + pu \right) \frac{dv}{dx} = R$$

Dividing by u we get

$$\frac{d^2v}{dx^2} + \left(\frac{2}{u} \frac{dy}{dx} + p \right) \frac{dv}{dx} = \frac{R}{u}$$

$$\text{put } \frac{dv}{dx} = p'$$

$$\frac{d^2v}{dx^2} = \frac{dp'}{dx}$$

$$\frac{dp'}{dx} + \left(\frac{2}{y} \frac{dy}{dx} + P \right) p' = \frac{R}{y}$$

which is linear equation of P

$$I.F = e^{\int P dx} = e^{\int \left(\frac{2}{y} \frac{dy}{dx} + P \right) dx}$$

$$= e^{\frac{2 \int dy}{y}} \cdot e^{\int P dx}$$

$$= e^{2 \log y} \cdot e^{\int P dx}$$

$$I.F = y^2 \cdot e^{\int P dx}$$

$$P \times I.F = \int \frac{R}{y} \times I.F \, dx + C_1$$

$$P \times y^2 \cdot e^{\int P dx} = \int \frac{R}{y} \times y^2 \cdot e^{\int P dx} \, dx + C_1$$

$$P \cdot y^2 \cdot e^{\int P dx} = \int R y \cdot e^{\int P dx} \, dx + C_1$$

From this equation we get the value of P' i.e. dv/dx on integrating we get the value of V.

② Theorem Second

Solution of Removal of First order derivative (Solution of change of dependent variable).

→ Proof: $\frac{d^2y}{dx^2} + P \frac{dy}{dx} + Qy = R$ — (1)

which is linear second order diff. equation.

Let $y = u \cdot v$ where u is not part C.F.

$$\frac{dy}{dx} = u \frac{dv}{dx} + v \frac{du}{dx}$$

$$\frac{d^2y}{dx^2} = u \frac{d^2v}{dx^2} + \frac{du}{dx} \frac{dv}{dx} + v \frac{d^2u}{dx^2} + \frac{du}{dx} \frac{dv}{dx}$$

$$\frac{d^2y}{dx^2} = u \frac{d^2v}{dx^2} + 2 \frac{du}{dx} \frac{dv}{dx} + v \frac{d^2u}{dx^2}$$

put these values in eqn (1)

$$u \frac{d^2v}{dx^2} + \left(2 \frac{du}{dx} + pu \right) \frac{dv}{dx} + \left(\frac{d^2u}{dx^2} + p \frac{du}{dx} + Qu \right) v = R$$

$$\frac{d^2v}{dx^2} + \left(\frac{2}{u} \frac{du}{dx} + p \right) \frac{dv}{dx} + \frac{1}{u} \left(\frac{d^2u}{dx^2} + p \frac{du}{dx} + Qu \right) v = \frac{R}{u} \quad \text{--- (2)}$$

$y = u.v$ but u is not part of C.F.
Hence the terms in last bracket is not zero.

Let us choose u in such a way

$$\frac{2}{u} \frac{du}{dx} + p = 0$$

$$\frac{du}{u} = -\frac{1}{2} p dx$$

Integrating we get

$$\int \frac{du}{u} = -\frac{1}{2} \int p dx$$

$$\log u = -\frac{1}{2} \int p dx$$

$$u = e^{-\frac{1}{2} \int p dx}$$

from coefficient of u

find the value of $\frac{du}{dx}$ and $\frac{d^2u}{dx^2}$

$$\frac{d^2u}{dx^2} = -\frac{1}{2} \left(p \frac{dy}{dx} + u \frac{dp}{dx} \right)$$

$$= -\frac{1}{2} \left(\frac{-p^2 u}{2} + u \frac{dp}{dx} \right)$$

$$= \frac{p^2 u}{4} + \frac{u}{2} \frac{dp}{dx}$$

Equation second becomes

$$\frac{d^2v}{dx^2} + \frac{1}{4} \left(\frac{p^2 u}{4} + \frac{u}{2} \frac{dp}{dx} - \frac{p^2 u}{2} + Qu \right) = \frac{R}{4}$$

$$\frac{d^2v}{dx^2} + \left(\frac{p^2}{4} + \frac{1}{2} \frac{dp}{dx} - \frac{p^2}{2} + Q \right) v = \frac{R}{4}$$

$$\frac{d^2v}{dx^2} + \left(Q - \frac{p^2}{4} - \frac{1}{2} \frac{dp}{dx} \right) v = \frac{R}{4}$$

$$\frac{d^2v}{dx^2} + Q_1 v = R_1 \quad \text{--- (3)}$$

$$Q_1 = Q - \frac{p^2}{4} - \frac{1}{2} \frac{dp}{dx} \quad , \quad R_1 = \frac{R}{4}$$

③ Theorem Third

Transformation equation of changing the independent variable.

→ Proof! We can discuss two methods for linear differential equation in both the methods the variable changes from y to v . But in present method variable changes to independent set.

$$\frac{d^2y}{dx^2} + p \frac{dy}{dx} + Qy = R \quad \text{--- ①}$$

which is linear second order diff. eqn.

$$z = f(x)$$

$$\frac{dy}{dx} = \frac{dy}{dz} \cdot \frac{dz}{dx}$$

$$\frac{d^2y}{dx^2} = \frac{d}{dx} \left(\frac{dy}{dx} \right) = \frac{d}{dx} \left(\frac{dy}{dz} \cdot \frac{dz}{dx} \right)$$

$$= \frac{dy}{dz} \cdot \frac{d}{dx} \left(\frac{dz}{dx} \right) + \frac{dz}{dx} \cdot \frac{d}{dx} \left(\frac{dy}{dz} \right)$$

$$\frac{d^2y}{dx^2} = \frac{dy}{dz} \cdot \frac{d^2z}{dx^2} + \left(\frac{dz}{dx}\right)^2 \cdot \frac{d^2y}{dz^2}$$

put these value in equation ①

$$\frac{dy}{dz} \cdot \frac{d^2z}{dx^2} + \left(\frac{dz}{dx}\right)^2 \cdot \frac{d^2y}{dz^2} + P \left(\frac{dy}{dz} \cdot \frac{dz}{dx}\right) + QY = R$$

Dividing by $\left(\frac{dz}{dx}\right)^2$

$$\frac{\frac{dy}{dz} \cdot \frac{d^2z}{dx^2}}{\frac{dz}{dx}}$$

$$\frac{d^2y}{dz^2} \left(\frac{dz}{dx}\right)^2 + \left(\frac{d^2z}{dx^2} + P \frac{dz}{dx}\right) \frac{dy}{dz} + QY = R$$

Dividing by $\left(\frac{dz}{dx}\right)^2$

$$\frac{d^2y}{dz^2} \left(\frac{dz}{dx}\right)^2 + \left(\frac{d^2z}{dx^2} + P \frac{dz}{dx}\right) \frac{dy}{dz} + \frac{Q}{\left(\frac{dz}{dx}\right)^2} Y = R$$

$$\left(\frac{dz}{dx}\right)^2$$

$$\frac{d^2 y}{dz^2} + \left(\frac{d^2 z}{dx^2} + p \frac{dz}{dx} \right) \frac{dy}{dz} + \frac{Q}{\left(\frac{dz}{dx} \right)^2} y = \frac{R}{\left(\frac{dz}{dx} \right)^2}$$

$$\frac{d^2 y}{dz^2} + P_1 \frac{dy}{dz} + Q_1 y = R_1 \quad \text{--- (2)}$$

$$P_1 = \frac{d^2 z}{dx^2} + p \frac{dz}{dx}, \quad Q_1 = \frac{Q}{\left(\frac{dz}{dx} \right)^2}, \quad R_1 = \frac{R}{\left(\frac{dz}{dx} \right)^2}$$

Let us choose z such $P_1 = 0$

(i) $P_1 = 0$

$$\frac{d^2 z}{dx^2} + p \frac{dz}{dx} = 0$$

$$\left(\frac{dz}{dx} \right)^2$$

$$\frac{d^2 z}{dx^2} + p \frac{dz}{dx} = 0$$

$$\frac{dz}{dx} = u$$

$$\frac{du}{dx} + pu = 0$$

$$\frac{du}{u} = -p dx$$

$$\frac{du}{u} = -p dx$$

On integrating

$$\int \frac{du}{u} = \int -p dx$$

$$\log u = \int -p dx$$

$$u = e^{\int -p dx}$$

$$dz = e^{\int -p dx} dx$$

$$z = \int e^{\int -p dx} dx \quad \text{--- (2)}$$

From equation (3) p is zero. Hence equation (2) becomes.

$$\frac{dz}{dz^2} + 0 \cdot z = R \quad \text{--- (4)}$$

diff. equation with constant coefficient

$$(b) \quad \Phi_1 = a^2$$

$$\Phi_1 = \Phi = a^2$$

$$\left(\frac{dz}{dx}\right)^2 = a^2$$

$$\left(\frac{dz}{dx}\right)^2 = \frac{\Phi}{a^2}$$

Taking square root

$$\frac{dz}{dx} = \frac{\sqrt{\Phi}}{a}$$

$$dz = \frac{\sqrt{\Phi}}{a} dx$$

Integrating we get

$$z = \int \frac{\sqrt{\Phi}}{a} dx + c_1 \quad \text{--- (4)}$$

From equation (4) the eqⁿ (2) becomes

$$a^2 \frac{d^2y}{dz^2} + p \frac{dy}{dz} + q y = R_1$$

From eqⁿ (4) p_1 becomes constant.
Hence linear diff. equation with

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$$\frac{dy}{dx} + py = 0$$

$$\frac{dy}{dx} = -py$$

$$\frac{dy}{y} = -p dx$$

On integrating

$$\int \frac{dy}{y} = \int -p dx$$

$$\log y = \int -p dx$$

$$y = e^{\int -p dx}$$

$$dz = e^{\int -p dx} dx$$

$$z = \int e^{\int -p dx} dx \quad \text{--- (2)}$$

From equation (3) p is zero. Hence equation (2) becomes.

$$\frac{dz}{dz^2} + Q \cdot z = R \quad \text{--- (4)}$$

constant coefficient
 Solving and putting the value
 of z we get required solution of
 differential equation.

④ Solve: $\frac{d^2y}{dx^2} - 2\tan x \frac{dy}{dx} + 2y = 2\sec x$

IF $y = \sin x$ is a known part of C.F.

$\frac{d^2y}{dx^2} - 2\tan x \frac{dy}{dx} + 2y = 2\sec x$

$P = -2\tan x, Q = 2, R = 2\sec x$

~~$Px^2 + Qx^2 = -2\tan x^2 + 2\sec x^2$~~

~~$Px^2 + Qx^2 = 0$~~

$u = \sin x$

$\frac{dP'}{dx} + \left(\frac{2}{u} \frac{dy}{dx} + P \right) P' = R/u$

$\frac{dP'}{dx} + (2 - 2\tan x) P' = 2\sec x$

03/02/20

Mathematics (Diff. Eqn)
Class Test Test

P. S. Khyade

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Differential equation.

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Jaker

Method I:- when one solution is known,

$$\text{Let } \frac{d^2y}{dx^2} + P \frac{dy}{dx} + Q \cdot y = R \quad \text{--- (1)}$$

be a second order differential equation
u is one solution i.e known

$$\frac{d^2u}{dx^2} + P \frac{du}{dx} + Q \cdot u = 0 \quad \text{--- (2)}$$

$$y = u \cdot v$$

Differentiate w.r. to x

$$\frac{dy}{dx} = u \frac{dv}{dx} + v \frac{du}{dx}$$

again differentiation,

$$\frac{d^2y}{dx^2} = u \frac{d^2v}{dx^2} + \frac{dv}{dx} \cdot \frac{du}{dx} + v \frac{d^2u}{dx^2} + \frac{dv}{dx} \cdot \frac{du}{dx}$$

$$\frac{d^2y}{dx^2} = u \frac{d^2v}{dx^2} + 2 \frac{dv}{dx} \cdot \frac{du}{dx} + v \frac{d^2u}{dx^2}$$

put the value of $\frac{d^2y}{dx^2}$, $\frac{dy}{dx}$ in eqⁿ (1)

$$u \frac{d^2v}{dx^2} + 2 \frac{dv}{dx} \cdot \frac{du}{dx} + v \frac{d^2u}{dx^2} + P \left(u \frac{dv}{dx} + v \frac{du}{dx} \right)$$

$$+ Q \cdot u \cdot v = R.$$

$$u \frac{d^2v}{dx^2} + 2 \frac{dv}{dx} \cdot \frac{du}{dx} + v \frac{d^2u}{dx^2} + P u \frac{dv}{dx} + P v \frac{du}{dx} + Q \cdot u \cdot v = R$$

$$u \frac{d^2 v}{dx^2} + \left(2 \frac{du}{dx} + Pu \right) \frac{dv}{dx} + v \frac{d^2 u}{dx^2} + P v \frac{du}{dx} + g \cdot u \cdot v = R$$

$$u \frac{d^2 v}{dx^2} + \left(2 \frac{du}{dx} + Pu \right) \frac{dv}{dx} + \left(\frac{d^2 u}{dx^2} + P \frac{du}{dx} + g \cdot u \right) v = R$$

$$\frac{d^2 v}{dx^2} + \left(\frac{2}{u} \frac{du}{dx} + P \right) \frac{dv}{dx} = R/u$$

$$\therefore \frac{d^2 u}{dx^2} + P \frac{du}{dx} + g \cdot u = 0$$

$$\therefore \frac{dv}{dx} = P' \quad \therefore \frac{d^2 v}{dx^2} = \frac{dP'}{dx}$$

$$\frac{dP'}{dx} + \left(\frac{2}{u} \frac{du}{dx} + P \right) P' = R/u \quad \text{--- (9)}$$

This is a linear equation

$$I.F = e^{\int P \cdot dx}$$

$$I.F = e^{\int \left(\frac{2}{u} \frac{du}{dx} + P \right) dx}$$

$$I.F = e^{\int \frac{2}{u} du + \int P \cdot dx}$$

$$I.F = e^{2 \log u} \cdot e^{\int P \cdot dx}$$

$$I.F = e^{\log u^2} \cdot e^{\int P \cdot dx}$$

$$I.F = u^2 \cdot e^{\int P \cdot dx}$$

$$R \quad P' u^2 \cdot e^{\int P \cdot dx} = \int \frac{R \cdot u^2 \cdot e^{\int P \cdot dx}}{u} \cdot dx$$

$$P' u^2 e^{\int P \cdot dx} = \int R \cdot u e^{\int P \cdot dx} \cdot dx$$

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$$\frac{dP'}{dx} + \left(-\frac{2}{u} \frac{du}{dx} + P \right) P' = R/u$$

when one solution is known then it is proved.

2) method II:- changing the independent variable $y = v$ y' to v .

Let

$$\frac{d^2 y}{dx^2} + P \frac{dy}{dx} + Q \cdot y = R \quad \text{--- (1)}$$

be a second order differential equation where u is a part of solution.

$$y = u \cdot v$$

differentiating w.r. to x .

$$\frac{dy}{dx} = u \frac{dv}{dx} + v \frac{du}{dx}$$

again differentiate.

$$\frac{d^2 y}{dx^2} = u \frac{d^2 v}{dx^2} + \frac{dv}{dx} \cdot \frac{du}{dx} + v \frac{d^2 u}{dx^2} + \frac{dv}{dx} \cdot \frac{du}{dx}$$

$$\frac{d^2 y}{dx^2} = u \frac{d^2 v}{dx^2} + 2 \frac{dv}{dx} \cdot \frac{du}{dx} + v \frac{d^2 u}{dx^2}$$

put the of $\frac{dy}{dx}$, $\frac{d^2y}{dx^2}$ in eqⁿ ①

$$u \frac{d^2v}{dx^2} + 2 \frac{dv}{dx} \cdot \frac{du}{dx} + u \frac{d^2u}{dx^2} + Pu \frac{dv}{dx} + Pv \frac{du}{dx} + Q \cdot u \cdot v = R$$

$$u \frac{d^2v}{dx^2} + \left(2 \frac{du}{dx} + Pu \right) \frac{dv}{dx} + \left(v \frac{d^2u}{dx^2} + Pv \frac{du}{dx} + Qu \cdot v \right) = R$$

$$u \frac{d^2v}{dx^2} + \left(2 \frac{du}{dx} + Pu \right) \frac{dv}{dx} + \left(\frac{d^2u}{dx^2} + P \frac{du}{dx} + Qu \right) v = R$$

$$\frac{d^2v}{dx^2} + \left(\frac{2}{u} \frac{du}{dx} + P \right) \frac{dv}{dx} + \frac{1}{u} \left(\frac{d^2u}{dx^2} + P \frac{du}{dx} + Qu \right) v = \frac{R}{u}$$

$$\therefore \frac{2}{u} \frac{du}{dx} + P = 0$$

$$\frac{2}{u} \frac{du}{dx} = -P$$

$$\frac{du}{u} = -\frac{1}{2} P \cdot dx$$

Integrating we get

$$\log u = -\frac{1}{2} \int P \cdot dx$$

$$u = e^{-\frac{1}{2} \int P \cdot dx}$$

$$u = e^{-\frac{1}{2} \int P \cdot dx}$$

The coefficient of $\frac{dv}{dx}$ is zero

then we find the $\frac{d^2u}{dx^2}$, $\frac{du}{dx}$

$$\frac{2}{u} \frac{du}{dx} + P = 0$$

$$\frac{2}{u} \frac{du}{dx} = -P$$

$$\frac{du}{dx} = -\frac{1}{2} Pu$$

$$\frac{d^2u}{dx^2} = -\frac{1}{2} \left\{ P \frac{du}{dx} + u \frac{dP}{dx} \right\}$$

$$\frac{d^2u}{dx^2} = -\frac{1}{2} \left\{ P \left(-\frac{1}{2} Pu \right) + u \frac{dP}{dx} \right\}$$

$$\frac{d^2u}{dx^2} = \frac{1}{4} P^2 u - \frac{1}{2} u \frac{dP}{dx}$$

$$\frac{d^2u}{dx^2} = \frac{1}{4} P^2 u - \frac{1}{2} u \frac{dP}{dx}$$

put the value of $\frac{du}{dx}$ & $\frac{d^2u}{dx^2}$ in eq³

(3)

$$\frac{d^2v}{dx^2} + \frac{1}{u} \left(\frac{1}{4} P^2 u - \frac{1}{2} u \frac{dP}{dx} - \frac{1}{2} P^2 u + Qu \right) = \frac{R}{u}$$

$$\frac{d^2 v}{dx^2} + \left(\frac{1}{4} P^2 - \frac{1}{2} \frac{dP}{dx} - \frac{1}{2} P^2 + Q \right) = \frac{R}{u}$$

$$\frac{d^2 v}{dx^2} + \left(Q - \frac{P^2}{4} - \frac{1}{2} \frac{dP}{dx} \right) = \frac{R}{u}$$

$$\frac{d^2 v}{dx^2} + Q_1 v = R_1$$

where $Q_1 = Q - \frac{P^2}{4} - \frac{1}{2} \frac{dP}{dx}$, $R_1 = \frac{R}{u}$

$$\left| \frac{d^2 v}{dx^2} + \left(Q - \frac{P^2}{4} - \frac{1}{2} \frac{dP}{dx} \right) v = \frac{R}{u} \right|$$

it is the changing independent variable y to v where u is a non part of C.F. Then it is proved.

3) Method III :- changing the variable
 x to z , then we get the relation

$$\underline{z = F(x)}$$

Let

$$\frac{d^2 y}{dx^2} + P \frac{dy}{dx} + Q \cdot y = R \quad \text{--- (1)}$$

be a second order differential equation i.e. changing variable x to z .

$$\frac{dy}{dx} = \frac{dy}{dz} \cdot \frac{dz}{dx}$$

differentiating w.r. to x ,

$$\frac{d^2y}{dx^2} = \frac{d}{dx} \left(\frac{dy}{dz} \cdot \frac{dz}{dx} \right)$$

$$\frac{d^2y}{dx^2} = \frac{dy}{dz} \cdot \frac{d^2z}{dx^2} + \frac{dz}{dx} \frac{d}{dx} \left(\frac{dy}{dz} \right)$$

$$\frac{d^2y}{dx^2} = \frac{dy}{dz} \cdot \frac{d^2z}{dx^2} + \frac{dz}{dx} \frac{d}{dz} \left(\frac{dy}{dz} \right) \frac{dz}{dx}$$

$$\frac{d^2y}{dx^2} = \frac{dy}{dz} \cdot \frac{d^2z}{dx^2} + \frac{d^2y}{dz^2} \left(\frac{dz}{dx} \right)^2$$

put the value of $\frac{d^2y}{dx^2}$ & $\frac{dy}{dx}$ in eqⁿ ①

$$\frac{dy}{dz} \cdot \frac{d^2z}{dx^2} + \frac{d^2y}{dz^2} \left(\frac{dz}{dx} \right)^2 + P \frac{dy}{dz} \cdot \frac{dz}{dx} + Q \cdot y = R$$

$$\frac{d^2y}{dz^2} \left(\frac{dz}{dx} \right)^2 + \frac{dy}{dz} \cdot \frac{d^2z}{dx^2} + P \frac{dy}{dz} \cdot \frac{dz}{dx} + Q \cdot y = R$$

$$\frac{d^2y}{dz^2} \left(\frac{dz}{dx} \right)^2 + \left(\frac{d^2z}{dx^2} + P \frac{dz}{dx} \right) \frac{dy}{dz} + Q \cdot y = R$$

$$\frac{d^2y}{dz^2} + \frac{\left(\frac{d^2z}{dx^2} + P \frac{dz}{dx} \right) \frac{dy}{dz} + Q \cdot y}{\left(\frac{dz}{dx} \right)^2} = \frac{R}{\left(\frac{dz}{dx} \right)^2}$$

$$\frac{d^2y}{dz^2} + P_1 \frac{dy}{dz} + Q_1 y = R_1$$

where $P_1 = \frac{d^2z + p dz}{(dz/dx)^2}$, $Q_1 = \frac{q}{(dz/dx)^2}$

$$R_1 = \frac{r}{(dz/dx)^2}$$

Q) Let us choose z in such a way that $P_1 = 0$

$$\frac{d^2z + p dz}{(dz/dx)^2} = 0$$

$$\frac{d^2z}{dx^2} + p \frac{dz}{dx} = 0$$

$$\therefore \frac{dz}{dx} = u, \quad \frac{d^2z}{dx^2} = \frac{du}{dx}$$

$$\frac{du}{dx} + pu = 0$$

$$\frac{du}{u} = -p \cdot dx$$

Integrating we get

$$\log u = - \int p \cdot dx$$

$$u = e^{- \int p \cdot dx}$$

$$\frac{dz}{dx} = e^{-\int P \cdot dx}$$

$$dz = e^{-\int P \cdot dx} \cdot dx$$

Integrating we get,

$$z = \int e^{-\int P \cdot dx} \cdot dx.$$

when the $P_1 = 0$ then we get

$$z = \int e^{\int P \cdot dx} \cdot dx.$$

(b) Let us choose z in such way that
 $g = a^2$.

$$\frac{g}{(dz/dx)^2} = a^2$$

$$\frac{g}{a^2} = \left(\frac{dz}{dx} \right)^2$$

Taking square root on b.s.

$$\frac{dz}{dx} = \frac{\sqrt{g}}{a}$$

$$dz = \frac{\sqrt{g}}{a} \cdot dx$$

Integrating we get

$$z = \int \frac{\sqrt{g}}{a} \cdot dx.$$

When $g = a^2$ then we get

$$\alpha = \int \frac{\sqrt{g}}{a} dx$$

Hence the prove when we consider
 (a) $p_1 = 0$ and (b) $g = a^2$.

4) Solve $\frac{d^2y}{dx^2} - 2x \frac{dy}{dx}$

$$\frac{d^2y}{dx^2} - 2 \tan x \frac{dy}{dx} + 3y = \sec x$$

If $y = \sin x$ is a known of C.F

5) $\frac{d^2y}{dx^2} - 4x \frac{dy}{dx} + (4x^2 - 1)y = -3e^{x^2} \sin 2x$

→ $p = -4x$, $g = 4x^2 - 1$, $R = -3e^{x^2} \sin 2x$

By changing independent variable y to v the above equation reduces to

$$\frac{d^2v}{dx^2} + g_1 v = R_1 \quad \text{--- (1)}$$

$$u = e^{-\frac{1}{2} \int p dx} = e^{-\frac{1}{2} \int -4x dx} = e^{2 \int x dx} = e^{x^2} = e^{x^2}$$

$$u = e^{ax}$$

$$Q_1 = Q - \frac{P^2}{4} - \frac{1}{2} \frac{dP}{dx}$$

$$Q = 4ax^2 - 1 - \frac{16x^2}{4} - \frac{1}{2} (-4a)$$

$$Q = 4ax^2 - 1 - 4ax^2 + 2$$

$$Q = 1$$

$$R_1 = \frac{R}{u} = \frac{-3e^{ax} \sin 2ax}{e^{ax}} = -3 \sin 2ax$$

put the value in eqⁿ ①

$$\frac{d^2v}{dx^2} + 1v = -3 \sin 2ax$$

C.F. \rightarrow

$$(D^2 + 1)v = 0$$

$$D^2 = -1$$

$$D^2 = i^2$$

$$D = \pm i$$

$$C.F. = e^{0x} (C_1 \cos ax + C_2 \sin ax)$$

$$P.I. = \frac{1}{D^2 + 1} (-3 \sin 2ax)$$

$$= \frac{-3}{-(2)^2 + 1} \sin 2ax$$

$$= -3 \frac{1}{-3} \sin 2ax$$

$$P.I = \sin 2x.$$

$$G.S = C.F + P.I$$

$$y = (C_1 \cos x + C_2 \sin x) + \sin 2x.$$

$$y = u.v$$

$$y = e^{x^2} [(C_1 \cos x + C_2 \sin x) + \sin 2x]$$

$$6) \frac{d^2y}{dx^2} + (3 \sin x - \cot x) \frac{dy}{dx} + 2 \sin^2 x y = e^{-\cos x} \cdot \sin^2 x$$

$$\rightarrow P = 3 \sin x - \cot x, \quad Q = 2 \sin^2 x,$$

$$R = e^{-\cos x} \cdot \sin^2 x.$$

The above eqⁿ reduces to

$$\frac{d^2y}{dx^2} + P_1 \frac{dy}{dx} + Q_1 y = R_1 \quad \text{--- (1)}$$

$$Q_1 = \frac{Q}{(dz/dx)^2} = \frac{2 \sin^2 x}{x} = \sin^2 x.$$

$$\frac{dx}{dz} = \sin x, \quad x = -\cos x.$$

$$R_1 = \frac{R}{(dz/dx)^2} = \frac{e^{-\cos x} \cdot \sin^2 x}{\sin^2 x} = e^{-\cos x}.$$

$$P_1 = \frac{\cos x + (3 \sin x - \cot x) \sin x}{\sin^2 x}.$$

$$P_1 = \frac{\cos x + 3(\sin^2 x - \frac{\cos x}{\sin x}) \sin x}{\sin^2 x}$$

"Solapur Zilha Samajseva Mandal's"
SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP

B.Sc-III (Sem-VI) - Unit Test, February-2020

(CBCS-Pattern)

Botany (Paper-XIV)

Plant Biotechnology

Day and Date: Tuesday, 25-02-2020

Marks 15

Time:- 8:30 AM to 9:30 AM

Instructions: i) All questions are compulsory.

ii) Figures to the right indicate full marks.

iii) Draw the neat labelled diagrams wherever necessary.

Que.1. Choose the correct alternative for each of the following.

(04)

I) PCR means

- a) Polymerase Chain Reaction b) Polymerase Chain Reactant
c) Polymerase Chain Reaction d) None of these

II) Types of DNA Replication Methods.

- a) Semiconservative b) conservative c) Dispersive d) All of these

III) Plant cells and tissue culture First made by

- a) G. Haberlandt b) Watson c) Mendile d) White

IV) Centres of plant molecular biology

- a) MKU, Maduri b) JNU, New Delhi
c) TNAU, Coimbatore d) All of these

Que.2. Write short note on

(06)

1) Micropropagation .

2) Somatic Hybridization .

Que.3. Southern And Northern Blotting

(05)

"Solapur Zilla Samajseva Mandals"


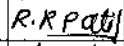


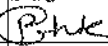
Santosh Bhimrao Patil Arts, Commerce & Science College, Mandrup
SCIENCE FACULTY


Internal Exam Feb. 2020 (C.G.P.A/C.B.C.S)

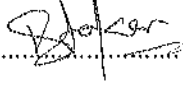
Name of Exam:-..Unit..test (B.S.-III) Subject & Paper:-..Botany..XIV

Date & Time:-..25-2-2020

Name of Jr.supervisor:-..Atkar V.S

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6021	Umarani priyanka A		26			
2	6026	patil. R.R.		27			
3	6019	shailch .S. S.		28			
4	6015	patil .I. I		29			
5	6028	chandr P.K		30			
6				31			
7				32			
8				33			
9				34			
10				35			
11				36			
12				37			
13				38			
14				39			
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17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor: 

Sign of Jr. Supervisor: 

"Solapur Zilha Samajseva Mandal's"
SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP

B.Sc-II (Sem-VI)-Unit Test, Feb-2019.

(CBSC-Pattern)

(Paper-VII)

PHYSICAL CHEMISTRY

Day and Date: Wednesday 22-02-2019

Time: 08.30 AM to 09.30 AM

Marks-15

Instructions : i) All questions are compulsory.

ii) Figures to the right indicate full marks.

iii) Draw the neat labelled diagrams wherever necessary.

Que.1. Choose the correct alternative for each of the following. (04)

I) The Entropy is ---- property.

a) Intensive b) extensive c) both a and b d) None of these

II) Entropy of perfect crystalline substance at absolute zero kelvin is -----.

a) Infinite b) Zero c) Non zero d) None of these

III) The process carried out at constant pressure is called -----.

a) Isobaric b) Isochoric c) Isothermal d) Isotonic

IV) The process carried out at constant Volume is called -----.

a) Isobaric b) Isochoric c) Isothermal d) Isotonic

Que.2. Attempt any Two of the following (06)

1) Physical Significance of entropy.

2) State and explain third law of thermodynamic. define entropy.

3) Mention any three thermodynamic state function.

Que.3. Attempt any One of the following (05)

1) derive an expression for entropy change associated with temperature and volume changes of 'n' moles of an ideal gas.

2) derive an expression for entropy change associated with temperature and pressure changes of 'n' moles of an ideal gas.

"SOLAPUR ZILLA SAMAJSEVA MANDALS"

SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP

B.Sc.-II (MATHEMATICS) SEMESTER - IV (CBCS-Pattern)

(Unit Test-Feb-2019)

Time: 1 hr.

Paper-VII (Differential Equations)

Marks-15

Q.1) MCQ'S:

(04)

(i) The differential equation of the form $\frac{dx}{P} = \frac{dy}{Q} = \frac{dz}{R}$ is called as.....

- (a) Total differential equation (b) Non - linear equation (c) Simultaneous equation (d) None of these

(ii) The necessary condition for integrability of differential equation $Pdx+Qdy+Rdz=0$ is

- (a) $P(Qx-Ry)+Q(Rx-Pz)+R(Py-Qx)=0$ (b) $P(Qx-Ry)+Q(Rx-Pz)+R(Py-Qx)\neq 0$ (c) $P(Qx-Ry)+Q(Rx-Pz)=R(Py-Qx)$

(d) None of these

(iii) The solution of differential equation $y= Px+f(p)$ is.....

- (a) $y=cx-f(c)$ (b) $y=cx+f(x)$ (c) $y=cx+f(c)$ (d) None of these

(iv) The solution of the equation $p^2-5p+6=0$ is.....

- (a) $y=2x+c$ (b) $y=3x+c$ (c) $(y-2x-c)(y-3x-c)=0$ (d) None of these

Q.2) Attempt the following: (any ~~one~~ ²)

(06)

(i) Solve: $y=3x+p$

(ii) Solve: $\frac{dx}{yz} = \frac{dy}{zx} = \frac{dz}{xy}$

(iii) Solve: $p^2 + p - 12 = 0$

Q.3) The necessary condition for integrability of the total differential equation $Pdx+Qdy+Rdz=0$.

(05)

OR

To show that the general solution of Clairaut's equation $y=px+f(p)$ is $y=cx+f(c)$ which is obtained by replacing 'p' by 'c' where "c" is any arbitrary constant.

-: BEST LUCK :-

Unit-Test

B.sc - I, sem-I [CBCS], sub: Botany.

Paper. No - II [Biomolecules and cell biology]

Day & Date: Thursday, 22/09/2016

Time: 1.30 to 2.30 PM

Marks: 15

Q.1. Multiple choice questions. (4)

1. Eukaryotic Ribosomes are of ----- Type.

a) 80s b) 60s c) 70s d) 40s.

2. Karyokinesis differ from cytokinesis because of it involves -----

a) Division of cytoplasm b) Division of Nucleus.
c) Division of cell d) Non of these.

3. The chromosomes are usually stained with -----

a) safranin b) light green c) methyl violet d) Carmine

4. Mitosis take place in -----

a) Reproductive cells b) germ cells c) vegetative cells
d) Non of the above.

Q.2. Attempt any two (6)

1. structure of prokaryotic cell.

2. Function of cell wall.

3. Function of Peroxisomes.

Q.3. Write on any one (5)

1. Singer-Nicholson's fluid-mosaic model.

2. Give the comparative account of prokaryotic & Eukaryotic cell.

SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP

B.Sc.-I Sem.-I (Subject-MATHEMATICS) (CBCS-pattern-2016)

Paper-II (CALCULUS)

Marks: 15

Date: 22/09/2016

UNIT TEST

Time: 1:30pm-2:30pm

Q. (1) MCQ'S:

(04)

1. Which of the following is not an indeterminate form.....

(a) $\infty + \infty$

(b) $\infty - \infty$

(c) ∞ / ∞

(d) $0 \times \infty$

2. Evaluate: $\lim_{x \rightarrow 0} 3^x - 2^x / x = \dots\dots\dots$

(a) $\log 3$

(b) $\log 2$

(c) $\log(3/2)$

(d) $\log(2/3)$

3. If $y = (2x+4)^7$ then $y_7 = \dots\dots\dots$

(a) 2^7

(b) $7!$

(c) $7! 2^7$

(d) none of these

4. $\sin x = \dots\dots\dots$

(a) $1+x+x^2/2!+ \dots\dots$

(b) $x-x^3/3!+x^5/5!+ \dots\dots$

(c) $x+x^3/3!+x^5/5!+ \dots\dots$

(d) none of these

Q. (2) Attempt the following: (any two)

(06)

1. If $Y = \log(5x+2)$ then find y_n

2. If $Y = \sin^{-1}x$, then prove that $(1-x^2)y_{n+2} - (2n+1)xy_{n+1} - n^2y_n = 0$

3. State the Maclaurin's Series and find expansion of $\sin x$

Q. (3) Attempt the following: (any one)

(05)

1. State and prove L'Hospital's Rule

2. Find nth derivative of $1/x^4 - a^4$

∴ BEST LUCK ∴

SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP

B.Sc.-I Sem.-I (Subject-MATHEMATICS) (CBCS-pattern-2016)

Paper-II (CALCULUS)

Marks: 15

Date: 22/09/2016

UNIT TEST

Time: 1:30pm-2:30pm

Q. (1) MCQ'S:

(04)

1. Which of the following is not an indeterminate form.....

- (a) $\infty + \infty$ (b) $\infty - \infty$ (c) ∞ / ∞ (d) $0 \times \infty$

2. Evaluate: $\lim_{x \rightarrow 0} 3^x - 2^x / x = \dots\dots\dots$

- (a) $\log 3$ (b) $\log 2$ (c) $\log(3/2)$ (d) $\log(2/3)$

3. If $y = (2x+4)^7$ then $y_7 = \dots\dots\dots$

- (a) 2^7 (b) $7!$ (c) $7! 2^7$ (d) none of these

4. $\sin x = \dots\dots\dots$

- (a) $1+x+x^2/2!+\dots\dots$ (b) $x-x^3/3!+x^5/5!+\dots\dots$ (c) $x+x^3/3!+x^5/5!+\dots\dots$ (d) none of these

Q. (2) Attempt the following: (any two)

(06)

1. If $Y = \log(5x+2)$ then find y_n

2. If $Y = \sin^{-1}x$, then prove that $(1-x^2)y_{n+2} - (2n+1)xy_{n+1} - n^2y_n = 0$

3. State the Maclaurin's Series and find expansion of $\sin x$

Q. (3) Attempt the following: (any one)

(05)

1. State and prove L'Hospitals Rule

2. Find nth derivative of $1/x^4 - a^4$

∴ BEST LUCK ∴

Solapur Zilla Samajseva Mandal's

SANTOSH BHIMRAO PATIL
ARTS, COMMERCE & SCIENCE COLLEGE, MANDRUP

Unit Test / Tutorial / Home Assignment

Name of the Student Umerani Priyanka Amasidda

Class B.Sc III Semester VI Roll No 6021

Subject Plant Biotechnology Paper No.

Day & Date 25-2-2020

Sign. of the Student (PAUMERANI) Sign. of the Teacher [Signature]

Q.No.	1	2	3	4	5	Total
Marks	4	6	5			15

Start Your Answer from here

Q1

- 1) PCR means
→ polymerase chain Reaction
- 2) Types of DNA Replication methods.
→ d) all of these
- 3) plant cells and tissue culture first made by
→ a. G. Haberlandt
- 4) centres of plant molecular biology
→

que 2

①

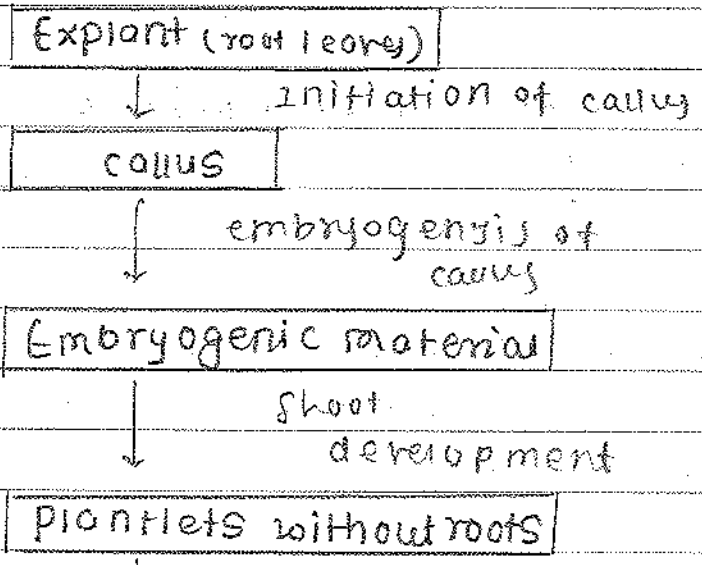
→

In nature, the methods of plant propagation may be either asexual (by multiplication of vegetative parts) or sexual (through genes of seeds). A population derived from a single individual by asexual reproduction constitutes a clone. Clonal propagation through tissue culture is popularly known as micropropagation.

There are five stages in micropropagation.

1. preparation of explant
2. formation of callus
3. Shoot development
4. Root formation
5. Transfer to a glasshouse

Ans



②

→ somatic hybridization.

the technique of hybrid production through the fusion of somatic cells under in vitro conditions bypassing sex together is called somatic hybridization.

First report on protoplast fusion between *Nicotiana glauca* and *N. longislorii* was published by Carlson et al. 1972. Unlike reproduction in which organelles genomes are generally contributed by the maternal parent somatic hybridization combines cytoplasmic organelles from both the parent protoplast fusion can be induced by chemical or electrical method. most commonly used chemical fusogens (agents that help in fusion)

Que ③

→ Southern Blotting Techniques

A method developed by a molecular biologist E.M. Southern (1975) for analyzing the related gene in a DNA restriction fragment is called as southern blotting technique.

Southern blots can easily provide a physical map of restriction sites within a gene located normally on a chromosome and reveal the number of copies of the gene in the genome and the degree of similarity of the gene when compared with the other complementary genes.

que 2

①

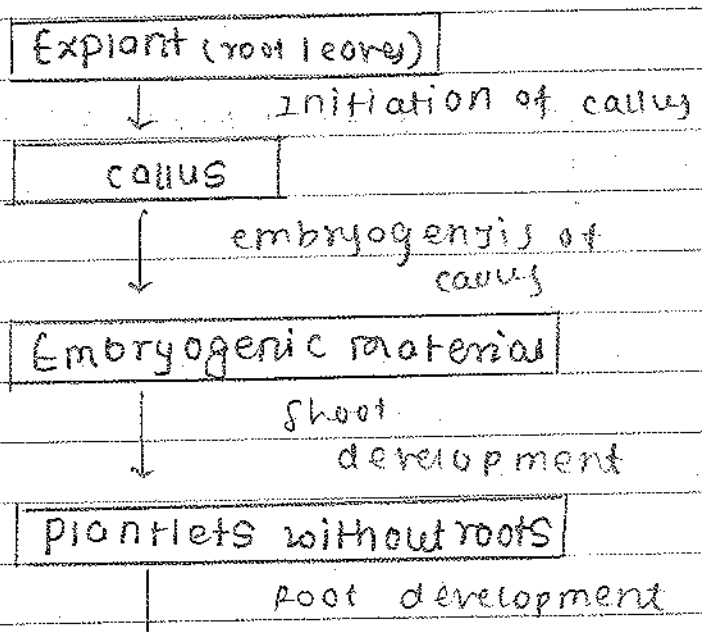
→

In nature, the methods of plant propagation may be either asexual (by multiplication of vegetative parts) or sexual (through generation of seeds). A population derived from a single individual by asexual reproduction constitutes a clone. Clonal propagation through tissue culture is popularly known as micropropagation.

There are five stages in micropropagation.

1. preparation of explant
2. formation of callus
3. shoot development
4. Root formation
5. Transfer to a glasshouse

Ans



the radiolabelled nucleic acid probe hybridize the complementary DNA on nitrocell filter the filter is thoroughly washed to remove the probe the hybridized regions are detected autoradiographically by placing the nitrocellulose.

2. Northern Blotting Technique:-

Southern blotting technique not be applied directly to the blot transfer of mRNA on separate by gel electrophoresis because RNA was found not to bind with nitrocellulose filter Amine etc.

these blot transfers are reusable because of the firm covalent bonding to RNA to the reactive paper the chemically reactive paper is equally effective in binding the denatured DNA as well small fragments of DNA can more effectively are to the denatured DNA these technique were more being advanced and more recently have been demonstrated that mRNA bands also can be blotted directly on nitrocellulose paper under the mRNA is isolated from transformed cells and electrophoresed under such conditions that do not permit the development of secondary structure.

It does not effect that the double standard nucleic acid formed due to hybridization of RNA by the compleme

Solapur Zilla Samajseva Mandal's

SANTOSH BHIMRAO PATIL ARTS, COMMERCE & SCIENCE COLLEGE, MANDRUP

Unit Test / Tutorial / Home Assignment

Name of the Student Shaikh sumaiyya sharif.

Class B.Sc III Semester VI Roll No 6019

Subject plant biotechnology Paper No. XIV

Day & Date 25-02-2020

Sign. of the Student Shaikh

Sign. of the Teacher [Signature]

Q.No.	1	2	3	4	5	Total
Marks	4	6	5			15
						15

Start Your Answer from here

Q.1

i. PCR means polymerase chain reaction

ii. Types of DNA Replication All of these Methods

iii. plant cells and tissue culture first made by [Blank]

iv. Centres of plant molecular biology [Blank]

Q.2.

1)

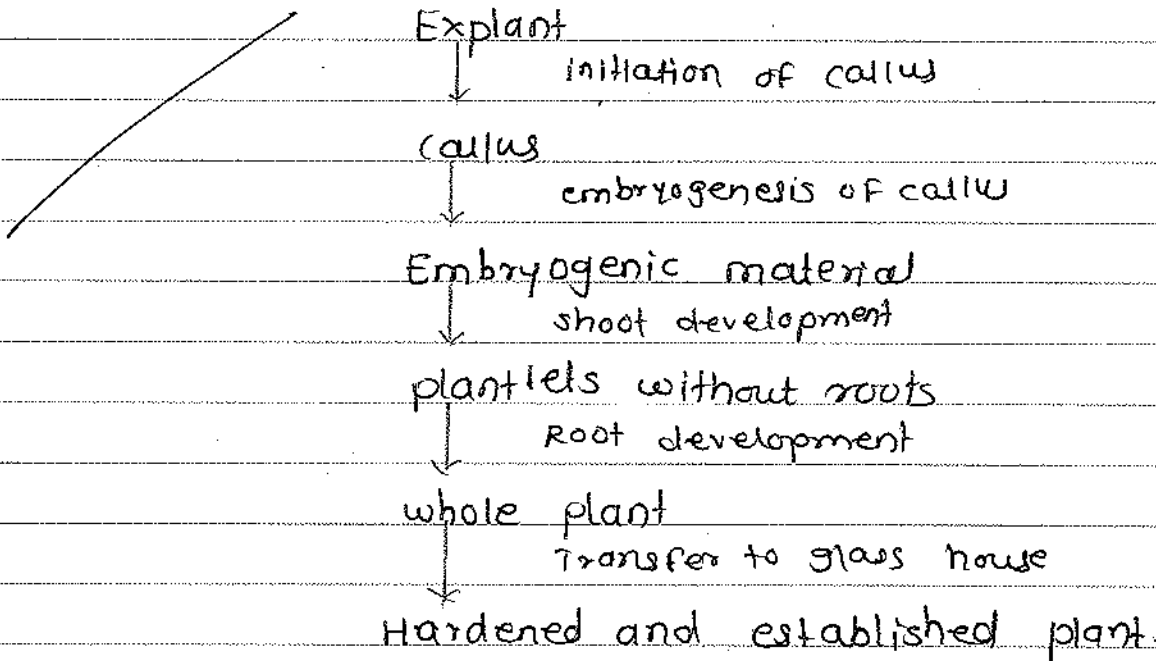
→ Micropropagation :-

A population derived from a single individual by asexual reproduction constitutes a clone. clonal propagation through tissue culture is popularly known as micropropagation.

There are five stages in micropropagation -

- 1) preparation of explant.
- 2) formation of callus
- 3) shoot development.
- 4) Root formation
- 5) Transfer to a glasshouse.

As



in vitro conditions, bypassing sex altogether is called somatic hybridization. Unlike sexual reproduction in which organelle genomes are generally contributed by the maternal parent, somatic hybridization combines cytoplasmic organelles from both the parents. Most commonly used chemical fusogens are ΔV -inactivated sendai virus, polyethylene glycol, polyvinyl alcohol, artificial seawater and lysozyme. The most successful chemical fusion method is the addition of polyethylene glycol (PEG) in the presence. The frequency of electrical fusion of protoplasts may be higher than chemical fusion.

The somatic hybrids that have lost chromosomes of one of the parents and therefore phenotypically closer to the other parent are called asymmetric hybrids.

Q.3

→ Southern Blotting :-

A method development developed by molecular biology E.M. Southern for analysing the related gene in a DNA restriction fragment is called as southern blotting technique. Southern blots can easily provide a physical map of restriction sites within a gene located normally on a chromosome, and reveal the number of copies of the gene in the genome and the degree of similarity of the gene when compared with the other complementary gene.

The procedure starts with digestion of DNA population by one or many restriction enzymes. Buffer contains single stranded DNA. Nitrocellulose filter binds DNA fragments strongly when in contact of it. After baking at 80°C, DNA fragments are permanently fixed to the nitrocellulose filter. The radiolabelled nucleic acid probe hybridizes the complementary DNA on nitrocellulose filter. The hybridized regions are detected autoradiographically by placing the nitrocellulose filter in contact with a photographic film.

2) Northern Blotting :-

Southern blotting technique could not be applied directly to blot transfer of mRNA separated by gel electrophoresis, because RNA was found not to bind with nitrocellulose filter. Alwine et al. An aminobenzylloxymethyl cellulose paper, prepared from Whatman filter paper No-540 after a series of uncomplicated reactions.

Alwine's method that of southern blotting or western blot like southern. The chemically reactive paper is equally effective in binding the denatured DNA as well. Small fragments of DNA can more effectively be detected than the digested genomic DNA.

Solapur Zilla Samajseva Mandal's

SANTOSH BHIMRAO PATIL ARTS, COMMERCE & SCIENCE COLLEGE, MANDRUP

Unit Test / Tutorial / Home Assignment

Name of the Student Patil Iram Iliya

Class B.Sc III Semester VI Roll No 6015

Subject _____ Paper No. XIV

Day & Date 25-02-2020 (Tue)

Sign. of the Student Patil

Sign. of the Teacher SL

Q.No.	1	2	3	4	5	Total
Marks	4	6	5			15

Start Your Answer from here

Q. 1

1) PCR means
Polymerase chain Reaction

2) Types of DNA Replication
All of these.

3) Plant cell and tissue culture First made by

4) Centres of plant molecular biology

4

Q. 2.

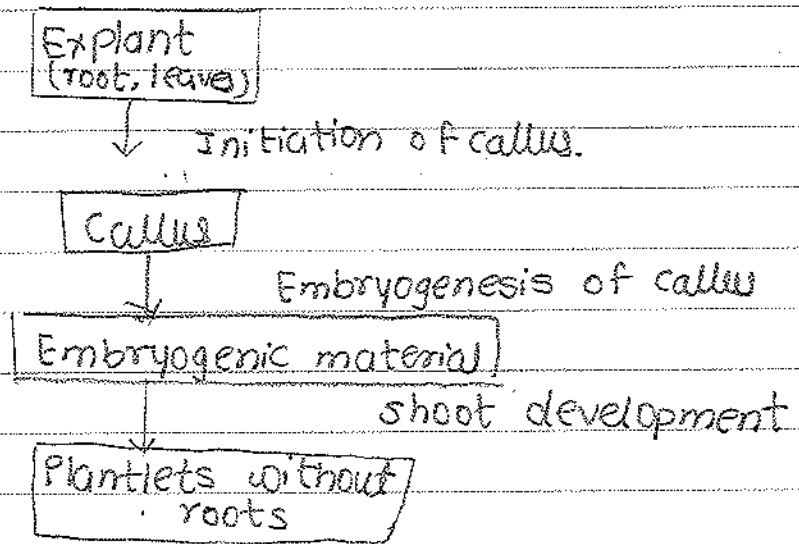
① Micro propagation :-

In nature, the methods of plant propagation may be either asexual or sexual. A population derived from a single individual by asexual reproduction constitutes a clone. Clonal propagation through tissue culture is popularly known as micropropagation. It involves in vitro propagation of selected genotype and the ultimate establishment of the plant in the field or glass house.

There are five stages in micropropagation.

- 1) Preparation of explant
- 2) Formation of callus
- 3) Shoot development
- 4) Root formation
- 5) Transfer to a glass house.

Q



2) Somatic hybridization:-

The technique of hybrid production through the fusion of somatic cells under in vitro conditions, bypassing sex altogether, is called somatic hybridization. Unlike sexual reproduction in which organelle genomes are generally contributed by the maternal parent, somatic hybridization combines cytoplasmic organelles from both the parents.

The somatic hybrids that have lost chromosomes of one of the parents and therefore, phenotypically closer to the other parent are called asymmetric hybrids.

If somatic hybrid cells and plants regenerate from them contain full nuclear genome from both the fusion partners then it is termed symmetric hybrids. An important feature of any somatic hybridization procedure is the identification and selection of fused cells.

Q. 2.

① Southern And Northern Blotting.

Southern Blotting:- A method, developed by a molecular biologist E.M. Southern (1975) for analyzing the related genes in a DNA restriction fragment is called as Southern blotting technique. Southern blots can easily provide a physical map of

washed to remove the probe. The hybridized regions are detected autoradiographically by placing the nitrocellulose filter in contact with a photographic film. The images show the hybridized DNA molecules. Thus, the sequences of DNA are recognized following the sequences of nucleic acid probe.

Northern Blotting :-

Southern blotting technique could not be applied directly to the blot transfer of mRNA separated by gel electrophoresis, because RNA was found not to bind with nitrocellulose filter. Alwine et al. (1979) devised a technique in which RNA bands are blot transferred from the gel onto chemically reactive paper.

The blot transfer are reusable because of the firm covalent bonding of RNA to the reactive paper. The chemically reactive paper is equally effective in binding the denatured DNA as well. It does not affect the double stranded nucleic acid formed due to hybridization of RNA by the complementary sequences of nucleic acid probe. Structure of mRNA is revealed to the extent to which mRNA protects the nucleic acid probe. Thus, Alwine's method extends that of Southern method and for this reasons it has been given the jargon term 'Northern blotting'. There is

"Solapur Zilla Samajseva Mandals"

Santosh Bhimrao Patil Arts, Commerce & Science College, Mandrup

SCIENCE FACULTY :

Internal Exam Feb. 2020 (C.G.P.A/C.B.C.S)

Name of Exam: B.Sc. III Unit Test Subject & Paper: Physics - XIII

Date & Time: 24-02-2020

Name of Jr. supervisor: Dr. S.A. Nimbale

Sr. No	Roll No.	Name of Student	Sign	Sr. No	Roll No.	Name of Student	Sign
1	6011	Birajdao S.S.	Ss Birajdao	26	6030	Mane A.G.	A.G. Mane
2	6010	Zudbuke A.N	Zudbuke	27			
3	6007	Bamchaude D.S	Bamchaude	28			
4	6008	Kapase A.S.	A.S.	29			
5	6009	Jawalkote D.V.	Jawalkote	30			
6	6004	Birajdao J.V	Birajdao	31			
7	6012	Birajdao S.S.	Birajdao	32			
8				33			
9				34			
10				35			
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24				49			
25				50			

Sign of Sr. Supervisor: [Signature]

Sign of Jr. Supervisor: [Signature]



"Solapur Zilla Samajseva Mandals"

Santosh Bhimrao Patil Arts, Commerce & Science College, Mandrup

SCIENCE FACULTY

Internal Exam Feb. 2020 (C.G.P.A/C.B.C.S)

Name of Exam:-...Unit...test (B.Sc III) Subject & Paper:- Atomic...Phy. Molecular Phy. & quantum mechanics

Date & Time:-...26/02/2020

Name of Jr.supervisor:-...Rohi...S.P. [Paper -XV]

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6009	Jawalkote D.V.	Jawalkote	26			
2	6010	Zarebuke A.N	Zarebuke	27			
3	6008	Kapase A.S.	AK	28			
4	6007	Barnhaude D.S	BS	29			
5	6011	Birajdar S.S.	SS Birajdar	30			
6	6004	Birajdar J.V	J Birajdar	31			
7	6012	Birajdar S.S.	SS Birajdar	32			
8				33			
9				34			
10				35			
11				36			
12				37			
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Sign of Sr. Supervisor:-.....

Sign of Jr. Supervisor:-.....



"Solapur Zilla Samajseva Mandals"

Santosh Bhimrao Patil Arts, Commerce & Science College, Mandrup

SCIENCE FACULTY

Internal Exam Feb. 2020 (C.G.P.A/C.B.C.S)

Name of Exam:-...B.S.C.-II...

Subject & Paper:-...modern physics (P-VIII)

Date & Time:-...26/2/20 10:30 to 11:30am

Name of Jr. supervisor:-...Raut A.D

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	5010	Koli S.D		26	5018	Inamdar A.R.	
2	5011	Kumbhar P.H		27			
3	5009	Chendake T.B		28			
4	5008	Kumbhar S.S		29			
5	5044	Sayali H. Chavan		30			
6	5025	Kalamade Manjushai		31			
7	5012	Nandargi pradnya		32			
8	5017	Sutar D.L.		33			
9	5027	Chavan A.H		34			
10	5024	Kumthale V.S		35			
11	5028	Dhamrao S.R		36			
12	5015	Pachave A.H		37			
13	3032	Sobale A.A.		38			
14	5089	Waghmare V.R		39			
15	5007	Pramesh Faraj		40			
16	5001	Vhanbhai D.S		41			
17				42			
18				43			
19				44			
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Sign of Sr. Supervisor:-

Sign of Jr. Supervisor:-



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil Arts, Commerce & Science College, Mandrup
SCIENCE FACULTY

Internal Exam Feb. 2020 (C.G.P.A/C.B.C.S)

Name of Exam:- Unit.....Test-

Subject & Paper:- Material Science XIV

Date & Time:- 25-02-2020

Name of Jr. supervisor:- Atakar v s

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6011	Birajdar S.S.	S.S. Birajdar	26			
-	6010	Zudbuke A.N	Zudbuke	27			
3	6009	Jawalkote D.V.	Jawalkote	28			
4	6008	Kapase A.S.	AK	29			
5	6007	Bamchaude D.S	D.S.	30			
6	6004	Birajdar J.V	Birajdar	31			
7	6012	Birajdar S.S.	Birajdar	32			
8				33			
9				34			
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25				50			

Sign of Sr. Supervisor:.....

Sign of Jr. Supervisor:.....



25-2-2019

B.No. 1

B.Sc. III Phy

Phy - P - XVI

"Solapur Zilla Samajseva Mandals"

Santosh Bhimrao Patil Arts, Commerce & Science College, Mandrup

SCIENCE FACULTY

Unit Test Feb. 2019 (C.G.P.A./C.B.C.S)

Name of Exam:- B.Sc. III...

Subject & Paper:- Phy - P - XVI

Date & Time:- 25/02/19 12:00 to 1:00 pm Name of Jr. supervisor:- Paul A.D

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6002	Tewari GK		26			
2	6016	Rathod A.D		27			
3	6024	Kambate R.R		28			
4	6026	Shejale S.H.		29			
5	6029	Hadpad K.P.		30			
6	6028	Tele M.M		31			
7	6031	Karnale P.A.		32			
8	6032			33			
9	6035	Kore R.P.		34			
10				35			
11				36			
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25				50			

Sign of Sr. Supervisor:

Sign of Jr. Supervisor:

Present - 08

Absent - 01



"Solapur Zilla Samajseva Mandal's"
Santosh Bhimrao Patil Arts Commerce & Science College, Mandrup
SCIENCE FACULTY

Unit Test sept. 2019 (C.G.P.A./C.B.C.S)

Name of Exam: Unit test

Subject & Paper: Nuclear physics III

Date & Time: 26.9.2019, 10 to 11 AM

Name of Jr. supervisor: V. Anuragi

Sr. No	Roll No.	Name of Student	Sign	Sr. No	Roll No.	Name of Student	Sign
1	6007	Bamchande D.S		26			
2	6011	Birajdao S.S		27			
3	6008	Kapase A.S.		28			
4	6009	Jawalkote D.V.		29			
5	6010	Zudbuke A.N		30			
6	6004	Birajdao J.V		31			
7	6012	Birajdao S.S.		32			
8				33			
9				34			
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Sign of Sr. Supervisor:

Sign of Jr. Supervisor:



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil Arts, Commerce & Science College, Mandrup
SCIENCE FACULTY

Unit Test Feb. 2019 (C.G.P.A/C.B.C.S)

Name of Exam:- ..B.Sc...III..

Subject & Paper:- ..Physics.. XII

Date & Time:- ..22.12.2019

Name of Jr.supervisor:- ..Dr. K. R. S. R. M.

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6002	Pujari G.K.		26			
2	6016	Rathod A.D.		27			
3	6024	Kambale R.P.		28			
4	6026	Shejale S.H.		29			
5	6027	Hadpad K.P.		30			
6	6028	Tele M.M.		31			
7	6031	Kamale P.A.		32			
8	6032			33			
9	6035	Kore R.J.		34			
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Sign of Sr. Supervisor:

Sign of Jr. Supervisor:

Present = 08
absent = 01



"Solapur Zilla Samajseva Mandals"

Santosh Bhimrao Patil Arts, Commerce & Science College, Mandrup

SCIENCE FACULTY

Unit Test Feb. 2019 (C.G.P.A./C.B.C.S)

Name of Exam:- Unit Test

Subject & Paper:- Physics - VIII

Date & Time:- 27/02/19 10:30 to 11:30 am

Name of Jr. supervisor:- Dr. S.A. Nimbag

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	5002	Birajdar J.V		26			
2	5003	Birajdar S.S.		27			
3	5004	Kapase A.S.		28			
4	5005	Bamehande D.S		29			
5	5006	Zadbuke A.N		30			
6	5008	Arjonde S.G.		31			
7	5010	Kadari N.K.		32			
8	5011	Abse	_____	33			
9	5012	Umamani P.A		34			
10	5015	Jawalkete D.V.		35			
11	5016	Shelsandhi P.T.		36			
12	5017	Birajdar P.G.		37			
13	5019	Susardi B.S		38			
14	5020	Abse	_____	39			
15	5021	Patil J.I.		40			
16	5022	Tavaskar K.M.		41			
17	5024	Mashale V.S		42			
18	5026	Ghantc P.K		43			
19	5029	Birajdar S.S.		44			
20	5031	Kewate G.A		45			
21	5032	Kewate V.S		46			
22	5033	Mande A.G.		47			
23				48			
24		Presul - 20		49			
25		Abse		50			

Sign of Sr. Supervisor:

Sign of Jr. Supervisor:



8:30 to 9:30

B.No - 2

B.Sc - II
phy - VII

"Solapur Zilla Samajseva Mandals"

Santosh Bhimrao Patil Arts, Commerce & Science College, Mandrup

SCIENCE FACULTY

Unit Test Feb. 2019 (C.G.P.A/C.B.C.S)

Name of Exam:- Unit Test

Subject & Paper:- Physics - VII

Date & Time:- 8:30 to 9:30, 27/02/19

Name of Jr. supervisor:-

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	5002	Birajdar J.V		26			
2	5003	Birajdar S.S.		27			
3	5004	Kapase A.S.		28			
4	5005	Bamchande D.S		29			
5	5006	Zadbuke A.M		30			
6	5008	Ajagonde . S.G.		31			
7	5010	Kadasi. N.K.		32			
8	5011	Baleshwar N.K		33			
9	5012	Umarani P.A		34			
10	5015	Jawalake D.V.		35			
11	5016	Shetsarou P.T.		36			
12	5017	Birajdar. P.G.		37			
13	5019	susaradi .B.S		38			
14	5020	Patil .I. I.		39			
15	5020			40			
16	5022	Tavuskerr. K.M.		41			
17	5024	Mashale V.S.		42			
18	5026	Ghante P.K		43			
19	5029	Birajdar S.S.		44			
20	5031	Kevate G.A		45			
21	5032	Kevate .V.T		46			
22	5033	Mane. A.G.		47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor:-

Sign of Jr. Supervisor:-

part no
at - 02



"Solapur Zilla Samajseva Mandal's"

Santosh Bhimrao Patil Arts Commerce & Science College, Mandrup

SCIENCE FACULTY

Unit Test sept. 2019 (C.G.P.A/C.B.C.S)

Name of Exam:- Unit Test

Subject & Paper:- Ph. Physics (paper - 2)

Date & Time:- 26/09/2019.

Name of Jr. supervisor:- Dr. Anam B. Tamboli

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	5039	Inalghmare Vipul Raju	<i>[Signature]</i>	26			
2	5007	Fukari Ramesh A	<i>[Signature]</i>	27			
3	5015	Pachave Ajay Govind	<i>[Signature]</i>	28			
4	5002	Sabale Ajinkya Amegji	<i>[Signature]</i>	29			
5	5001	Vhanmane Dhanesh S.	<i>[Signature]</i>	30			
6	5027	Chavan Avinash H	<i>[Signature]</i>	31			
7	5024	Kumthale V.S	<i>[Signature]</i>	32			
8	5028	Ohreao S.R	<i>[Signature]</i>	33			
9	5029	Swami. Aishwarya K	<i>[Signature]</i>	34			
10	5012	Nandargi Pradnya	<i>[Signature]</i>	35			
11	5017	Sutar Dhaneshwari	<i>[Signature]</i>	36			
12	5013	Inamdar Anisa	<i>[Signature]</i>	37			
13	5010	Sujata Koli	<i>[Signature]</i>	38			
14	5011	Pratibha Kumbhar	<i>[Signature]</i>	39			
15	5009	Telashri Chendake	<i>[Signature]</i>	40			
16	5008	Kumbhar Sushma	<i>[Signature]</i>	41			
17	5044	Soyadi Chavan	<i>[Signature]</i>	42			
18				43			
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Sign of Sr. Supervisor: *[Signature]*

Sign of Jr. Supervisor: *[Signature]*

Present = 17
Absent = 2

(17)



"Solapur Zilla Samajseva Mandal's"

Santosh Bhimrao Patil Arts Commerce & Science College, Mandrup

SCIENCE FACULTY

Unit Test sept. 2019 (C.G.P.A/C.B.C.S)

Name of Exam:- Unit Test

Subject & Paper:- Electronics (P-VI)

Date & Time:- 20/9/19 ... 10-11 am

Name of Jr. supervisor:- Dr. K.V. Gokhad

Sr. No	Roll No.	Name of Student	Sign	Sr. No	Roll No.	Name of Student	Sign
1	5039	Waghmare Vipul Raju		26			
2	5007	Ramesh A. Fulari		27			
3	5002	Sabale Ajinkya A.		28			
4	5015	Pardave Ajay Govind		29			
5	5001	Dhordesh Shrishail V.		30			
6	5027	Chavan Aninadh		31			
7	5024	Kumthale V.S		32			
8	5028	Pharero S.R		33			
9	5044	Sayali Chavan		34			
10	5013	Inamdar Anisa		35			
11	5017	Sutar Dhaneshwar		36			
12	5012	Nandargi Pradnya		37			
13	5009	Tejashri Chendake		38			
14	5008	Kumbhar Sushma		39			
15	5010	Koli Sujata		40			
16	5011	Kumbhar Pratibha		41			
17	5029	Aishwarya Swami.K		42			
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Sign of Sr. Supervisor:

Sign of Jr. Supervisor:



15 - 7
10 - 9

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10 x 7

153
14

139

"Solapur Zilla Samajseva Mandals"
Santosh Bhinrao Patil Arts, Commerce & Science College, Mandrup
SCIENCE FACULTY

Unit Test Feb. 2019 (C.G.P.A/C.B.C.S)

Name of Exam:-

Subject & Paper:- Physics XIII

Date & Time:-

Name of Jr.supervisor:-

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6002	Tiwari G.R		26			
2	6016	Rathod. A.P		27			
3	6024	Kumbale P.P		28			
4	6026	Shejale S.H.		29			
5	6029	Hadpad K.P.		30			
6	6028	Tele m.m		31			
7	6031	Kannale P.A.		32			
8	6032			33			
9	6035	Kore R.T.		34			
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Sign of Sr. Supervisor:-

Sign of Jr. Supervisor:-



"Solapur Zilla Samajseva Mandals"

Santosh Bhimrao Patil Arts, Commerce & Science College, Mandrup

SCIENCE FACULTY

Unit Test Feb. 2019 (C.G.P.A/C.B.C.S)

Name of Exam:-

Subject & Paper:- Paper No XV

Date & Time:-

Name of Jr.supervisor:-

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6002	Pujari G.K.	<i>Pujari G.K.</i>	26			
2	6016	Rathod A.M.	<i>Rathod A.M.</i>	27			
3	6024	Kambele R.P.	<i>Kambele R.P.</i>	28			
4	6026	Shejale S.H.	<i>Shejale S.H.</i>	29			
5	6029	Hadpad K.P.	<i>Hadpad K.P.</i>	30			
6	6028	<i>Titale</i> Tele M.M.	<i>Titale M.M.</i>	31			
7	6031	Kamale P.A.	<i>Kamale P.A.</i>	32			
8	6032			33			
9	6035	<i>Wodekar P.</i>	<i>Wodekar P.</i>	34			
10				35			
11				36			
12				37			
13				38			
14				39			
15				40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor:-

Sign of Jr. Supervisor:-



"Solapur Zilla Samajseva Mandal's"
Santosh Bhimrao Patil Arts Commerce & Science College, Mandrup
SCIENCE FACULTY

Internal Unit Test sept. 2019 (C.G.P.A/C.B.C.S)

Name of Exam:-B.S.C-III

Subject & Paper:-Physics -IX

Date & Time:- ...20/09/2019 10 to 11

Name of Jr. supervisor:- ...Salunkhe S-S

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6012	Birajdar S.S		26			
2	6004	Birajdar J.V		27			
3	6008	Kapase A.S.		28			
4	6010	Zadake A.N		29			
5	6009	Jawalbete D.V.		30			
6	6011	Birajdar S.S.		31			
7	6007	Bamchande D.S		32			
8				33			
9				34			
10				35			
11				36			
12				37			
13				38			
14				39			
15				40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor:

Sign of Jr. Supervisor:



"Solapur Zilla Samajseva Mandal's"

Santosh Bhimrao Patil Arts Commerce & Science College, Mandrup

SCIENCE FACULTY

Unit Test sept. 2019 (C.G.P.A/C.B.C.S)

Name of Exam:- Unit Test 2019

Subject & Paper:- physics X solid state

Date & Time:- 21-9-19 10:00 AM
11: AM

Name of Jr. supervisor:- Atakar V.S

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6007	Bamchande D.S	<u>Bamch</u>	26			
2	6011	Birajdar S.S.	<u>S.S. Birajdar</u>	27			
3	6009	Jawalkote D.V.	<u>Jawalkote</u>	28			
4	6008	Kapase A.S.	<u>AS</u>	29			
5	6010	Zudbuke A.N	<u>Zudbuke</u>	30			
6	6012	Birajdar S.S.	<u>Birajdar</u>	31			
7	6009	Birajdar F.V	<u>Birajdar</u>	32			
8				33			
9				34			
10				35			
11				36			
12				37			
13				38			
14				39			
15				40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor:- [Signature]

Sign of Jr. Supervisor:- [Signature]



"Solapur Zilla Samajseva Mandals"

Santosh Bhimrao Patil Arts, Commerce & Science College, Mandrup

SCIENCE FACULTY

Unit Test Feb. 2019 (C.G.P.A/C.B.C.S)

Name of Exam:- B.S.C.I

Subject & Paper:- physics IV

Date & Time:- 27.02.19

Name of Jr. supervisor:- M. T. Mhetre

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	4001	PH Kumbhar	<i>[Signature]</i>	26	4026		
2	4002	S.D Koli	<i>[Signature]</i>	27	4027	Tevale Umesh	<i>[Signature]</i>
3	4003	Kumbhar Sushma	<i>[Signature]</i>	28	4028		
4	4004			29	4029	Sutar Dhaneshwari	<i>[Signature]</i>
5	4005	M. S. Jekar	<i>[Signature]</i>	30	4030		
6	4006	Rathod S.D	<i>[Signature]</i>	31	4031	Turbe Priti	<i>[Signature]</i>
7	4007	HadSange Anvini	<i>[Signature]</i>	32	4032	Samadai Aishbah	<i>[Signature]</i>
8	4008	Khyade Priyanka	<i>[Signature]</i>	33	4033	Swami Aishwarya	<i>[Signature]</i>
9	4009	Tejashri chendake	<i>[Signature]</i>	34	4034	Kalamode M.S.	<i>[Signature]</i>
10	4010	Sobale. Anirudh	<i>[Signature]</i>	35	4035	Tejare Madama	<i>[Signature]</i>
11	4011			36	4036	Athani Ganesh K	<i>[Signature]</i>
12	4012	Dulkari Akshata	<i>[Signature]</i>	37	4037		
13	4013	Pujari sugalabai	<i>[Signature]</i>	38	4038	Kakanaki R.R.	<i>[Signature]</i>
14	4014	Patil soma Mumbai	<i>[Signature]</i>	39	4039	Toane sachin	<i>[Signature]</i>
15	4015	Shaikh Madina	<i>[Signature]</i>	40	4040		
16	4016	Patil Gauri A.	<i>[Signature]</i>	41	4041	Bhuyunayatri C.M	<i>[Signature]</i>
17	4017	Julari R.A.	<i>[Signature]</i>	42	4042	Swami Gayatri G	<i>[Signature]</i>
18	4018	Nhanmane D.S.	<i>[Signature]</i>	43	4043		
19	4019	Swami Nilams.	<i>[Signature]</i>	44	4044	Sobale A.A	<i>[Signature]</i>
20	4020	Pachave Ajay U	<i>[Signature]</i>	45	4045	Kore O.P.	<i>[Signature]</i>
21	4021	Nandargi pradnya	<i>[Signature]</i>	46	4046	chavan. Anirudh	<i>[Signature]</i>
22	4022	Inamdar Anisa	<i>[Signature]</i>	47	4047		
23	4023	Hiremath B.R.	<i>[Signature]</i>	48	4048	Narute Rani. D.	<i>[Signature]</i>
24	4024			49	4049	Dharmrao Sagar	<i>[Signature]</i>
25	4025	Sachin Patil	<i>[Signature]</i>	50	4050		

Sign of Sr. Supervisor:- *[Signature]*

Sign of Jr. Supervisor:- *[Signature]*

Present = 39
 Absent = 11
 Total = 50



13/10/18 RAO-5

"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY
Unit Test Feb-2018(C.G.P.A/C.B.C.S)

Name of Exam:- B.Sc - I sem-II Subject & Paper:- physics - IV

Date & Time:- 12/02/2018 1:30 to 2:30 Name of Jr.supervisor:- Salunkhe S.S

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	41	Patel Madassir	<i>[Signature]</i>	26			
2	4043	Bamchande Divya	<i>[Signature]</i>	27	4076	Mashalkar S.R	<i>[Signature]</i>
4				28			
5				29	4078	Rathod. R. R.	<i>[Signature]</i>
6	4046	susaladi Bhagyashri S	<i>[Signature]</i>	30			
7	4047	Helene shilpa	<i>[Signature]</i>	31			
8	4048	vhanamane Banaridha	<i>[Signature]</i>	32			
9	4050	Belate vaibhav	<i>[Signature]</i>	33			
10	4054	Bimador Pravin	<i>[Signature]</i>	34			
11	4055	Shaikh samaiyya	<i>[Signature]</i>	35			
12	4056	Nimbargi R.P.	<i>[Signature]</i>	36			
13	4057	Mashale V.S.	<i>[Signature]</i>	37			
14	4058	Ajagande S. G.	<i>[Signature]</i>	38			
15	4060	lophande V.S	<i>[Signature]</i>	39			
	4065	Shaikh.A.N.	<i>[Signature]</i>	40			
17	4066	Dhanke S.R.	<i>[Signature]</i>	41			
18	4067	nimbargi R.V	<i>[Signature]</i>	42			
19	4068	zadbulke S.S	<i>[Signature]</i>	43			
20				44			
21				45			
22				46			
23				47			
24				48			
24				49			
25	4074	Patil.V.S	<i>[Signature]</i>	50			

~~TO PUT~~
19

Sign of Sr. Supervisor: *[Signature]*

Sign of Jr. Supervisor: *[Signature]*

19



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY
 Unit Test Feb-2018(C.G.P.A/C.B.C.S)

Name of Exam:- D.S.C.E.....

Subject & Paper:- Heat and Thermodynamics
P.H III

Date & Time:- 12/12/18. 12 to 1 Pm

Name of Jr. supervisor:- Kamble P.B.

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	4001	Patil. Mahant. Sh. M	Patil	26	4035	umarani priyanka A	Umarani
2	4002	kumthale V.S	Patil	27	4036	shoikh A.M	Patil
3	4005	Mane A.G.	A.G. Mane	28	4037	Mishrahor V.B	Patil
4	4006	Birajdar S.S	Patil	29	4039	Bableshwar N.K	Patil
5	4007	Zadbuke A.N	Patil	30	4040	devkate A.B	Patil
6	4008	Birajdar K.C	Patil	31			
7	4009	Kapase A.S	Patil	32			
8	4013	Tavaskar K.M	Patil	33			
9	4014	Deshmukh S.V	Patil	34			
10	4017	Kore A.S	Patil	35			
11	4018	Bhangunde P.S	Patil	36			
12	4019	Bhangunde V.V	Patil	37			
13	4021	Aiwale M.S	Patil	38			
14	4022	Patil I.I	Patil	39			
15	4023	Tinabe V.K	Patil	40			
16	4024	Shetsondi P.T	Patil	41			
17	4025	Waghmare V.E	Waghmare	42			
18	4028	Patil R.R	R.R. Patil	43			
19	4029	Jawalkote D.V	Patil	44			
20	4030	shendage K.A	shendage	45			
21	4032	Kadani N.K	Kadani	46			
22	4034	Birajdar J.V	Patil	47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor:

Sign of Jr. Supervisor:

27 + 19
~~46~~
D.S.C.E

46



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY
 Unit Test Feb-2018(C.G.P.A/C.B.C.S)

Name of Exam:- B.S.C.-I Sem-II
Feb. 2018

Subject & Paper:- phy. III - Heat & Thermodynamics

Date & Time:- 12/02/2018
Monday.

Name of Jr. supervisor:- Dede K.A.

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	41	Patel Mudassar	<u>Mudassar</u>	26			
2				27			
3	43	Bamchande Divya	<u>Divya</u>	28			
4				29			
5				30			
6	46	Susaladi Bhagyashri	<u>Susaladi</u>	31			
7	47	Helave Shilpa	<u>Shilpa</u>	32			
8	48	Vhamamane Bhamasiddha	<u>Bhamasiddha</u>	33			
9	50	Belate Vaibhav	<u>Vaibhav</u>	34			
10	54	Biradar Pravin	<u>Pravin</u>	35			
11	55	Shaikh Sumaiyya	<u>Sumaiyya</u>	36			
12	56	Nimbargi R.P.	<u>R.P.</u>	37			
13	57	Mashale V.S.	<u>V.S.</u>	38			
14	58	Alagonde S.G.	<u>S.G.</u>	39			
15				40			
16	60	Lokhande V.S.	<u>V.S.</u>	41			
17	65	Shaikh A.N.	<u>A.N.</u>	42			
18	66	Dhanke S.R.	<u>S.R.</u>	43			
19	67	Nimbargi R.S.	<u>R.S.</u>	44			
20	68	Zadhoke S.S.	<u>S.S.</u>	45			
21	74	Patil V.S.	<u>V.S.</u>	46			
22	4076	Mashalkar S.R.	<u>S.R.</u>	47			
23	4078	Ruthod. R.R.	<u>R.R.</u>	48			
24				49			
25				50			

total - 38
 present - 48
 Absent - 20

107 = 19

Sign of Sr. Supervisor: Dede K.A.

Sign of Jr. Supervisor: Dede K.A.
 12-02-2018



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY
 Unit Test Feb-2018(C.G.P.A/C.B.C.S)

Name of Exam:- B.Sc.-II

Subject & Paper:- physics -VII- optics

Date & Time:- 12/02/18.. 12 to 1

Name of Jr.supervisor:- Salunkhe S.S

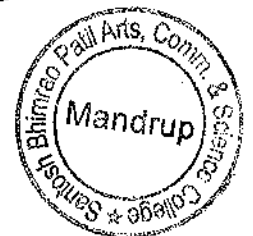
Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	5001	Beradar S.B		26			
2	5003	Hadpad K.P.		27			
3	5004	Shejale S.H.		28			
4	5006	Kulkarni B.P		29			
5	5008	Gawade K.S.		30			
6	5009	Banne m.B		31			
7	5010	Bandgar S.M.		32			
8	5011	Kambale P.P		33			
9	5012	Kamale Pallavi		34			
10	5014	Kamale D.A		35			
11	5018	Gangadax R.S		36			
12	5019	Adole S.P.		37			
13	5021	Tele M.M		38			
14	5023	Rajput H.K		39			
15	5024	Rathod A.D		40			
16	5025	Nandi M.A.		41			
17	5026	Kambale J.L		42			
18	5027	Kamble J.T		43			
19	5029	Kore P.P.		44			
20	5030	Jamadar S.M.		45			
21				46			
22				47			
23				48			
24				49			
25				50			

Total - 20

Sign of Sr. Supervisor:-

Sign of Jr. Supervisor:- Salunkhe

Total - 20
marks



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY
Unit Test Feb-2018(C.G.P.A/C.B.C.S)

Name of Exam:- B.Sc II Sem IV
Feb 2018

Subject & Paper:- Modern physics - VIII

Date & Time:- 12/2/18.. 1.30 to 2.30 p.m. Name of Jr. supervisor:- Dahivade P.B.

Sr. No	Roll No.	Name of Student	Sign	Sr. No	Roll No.	Name of Student	Sign
1	5001	Beradar S.B	<u>Beradar</u>	26			
2	5003	Hadpad K.P.	<u>Hadpad</u>	27			
3	5004	Shejale S.H.	<u>Shejale</u>	28			
4	5006	Kulkarni B.P	<u>B.P</u>	29			
5	5008	Gawade K.S.	<u>Gawade</u>	30			
6	5009	Banne M.B	<u>M.B. Banne</u>	31			
7	5010	Bandgar S.M	<u>S.M</u>	32			
8	5011	Kambale R.P.	<u>R.P</u>	33			
9	5012	Karale P.A.	<u>P.A</u>	34			
10	5014	Kamale D.A	<u>D.A</u>	35			
11	5018	Sunyedde R.S	<u>R.S</u>	36			
12	5019	Adhe S.R.	<u>S.R</u>	37			
13	5021	Tele M.M	<u>M.M</u>	38			
14	5023	Rajad H.R	<u>H.R</u>	39			
15	5024	Rathod A.D	<u>A.D</u>	40			
16	5025	Nandi M.A.	<u>M.A</u>	41			
17	5026	Kamble S.I	<u>S.I</u>	42			
18	5029	Kamble J.T	<u>J.T</u>	43			
19	5029	Kore P.P.	<u>P.P</u>	44			
20	5030	Jamadar S.N.	<u>S.N</u>	45			
21				46			
22				47			
23				48			
24				49			
25				50			

20
Total - 20
Present - 20
Absent - 0

Sign of Sr. Supervisor: [Signature]

Sign of Jr. Supervisor: [Signature]

12/2/18

20



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY
Unit Test Feb-2018(C.G.P.A/C.B.C.S)

Name of Exam:- B.Sc.-III sem-VI

Subject & Paper:- Electrodynamics, XII

Date & Time:- 12/02/18, 12 to 01

Name of Jr. supervisor:- Babare P.A.

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6006	Kumbhar S.V		26			
2	6009	Nawale V.B	V.B. Nawale	27			
3	6010	Kurumbhakar P.R.		28			
4	6011	Kamale D.A		29			
5	6012	Boralkar P.P		30			
6	6014	Vhanbute R.O.		31			
7	6015	Phadatar A.R		32			
8	6025	Ambiyar M.S		33			
9	6028	Absent Sutejaji	Sutejaji	34			
10				35			
11				36			
12				37			
13				38			
14		Total = 09		39			
15		Present = 08		40			
16		Absent = 01		41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor:

Sign of Jr. Supervisor:

Total - 8



B.No - 4

R.No - 5

"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY
Unit Test Feb-2018(C.G.P.A/C.B.C.S)

Name of Exam:- ...B.Sc. III

Subject & Paper:- ...physics XI

Date & Time:- ...15.02.18.

Name of Jr. supervisor:- ...Salunke S.S

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6006	Kumbhar S.V	<u>Kumbhar</u>	26			
2	6009	Nawale V.B	<u>V.B. Nawale</u>	27			
3	6010	Kuruvinshetti P.R	<u>P.R. Kuruvinshetti</u>	28			
4	6011	Karnale D.A.	<u>D.A. Karnale</u>	29			
5	6012	Boralkar P.P.	<u>P.P. Boralkar</u>	30			
6	6014	Vhankute R.O.	<u>R.O. Vhankute</u>	31			
7	6015	Phadatar A.R	<u>A.R. Phadatar</u>	32			
8	6025	Ambigao A.S	<u>A.S. Ambigao</u>	33			
9	6028	Salotagi S.M	<u>S.M. Salotagi</u>	34			
10				35			
11				36			
12				37			
13				38			
14				39			
15				40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor:- [Signature]Sign of Jr. Supervisor:- [Signature]

Total = 9



B.NO-4 R.NO-9

"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY

Unit Test Feb-2018(C.G.P.A/C.B.C.S)

Name of Exam:- B.Sc. III

Subject & Paper:- Physics XVI

Date & Time:- 19/2/18 12:00 pm

Name of Jr. supervisor:- Dr. Nimbargi S.A.

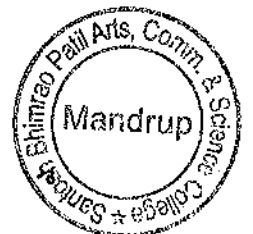
Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6006	Kumbhar S.V	<i>[Signature]</i>	26			
2	6009	Nawale V.B	<i>[Signature]</i>	27			
3	6010	Karnalingshetti P.R	<i>[Signature]</i>	28			
4	6011	Karmale D.A	<i>[Signature]</i>	29			
5	6012	Boralkar P.P	<i>[Signature]</i>	30			
6	6014	Vhanakute R.O.	<i>[Signature]</i>	31			
7	6015	Phadatore A.R	<i>[Signature]</i>	32			
8	6025	Ambigore A.S	<i>[Signature]</i>	33			
9	6028	Sulotagi S.M	<i>[Signature]</i>	34			
10				35			
11				36			
12				37			
13				38			
14				39			
15				40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Present - 09
Absent - 00
Total - 09

Sign of Sr. Supervisor: *[Signature]*

Sign of Jr. Supervisor:

Botry (09)



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY
 Unit Test sept. 2017 (C.G.P.A/C.B.C.S)

Name of Exam:- B.Sc-F.1 sept. 2017

Subject & Paper:- Mechanics Properties of matter, paper-J

Date & Time:- 25/09/2017, 12.00 PM to 1.00 PM

Name of Jr. supervisor:- Babar P.A.

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	4041	Patel Mudassar	<i>[Signature]</i>	26	4069	Mad. A.A.S	<i>[Signature]</i>
2	4042	Swami Prayakta	<i>[Signature]</i>	27	4071	Karoo U.R.K.	<i>[Signature]</i>
3	4043	Bamchand Divya	<i>[Signature]</i>	28	4074	Patil.V.S	<i>[Signature]</i>
4	4044	Rathod Vinod	<i>[Signature]</i>	29	4073	surade.P.P	<i>[Signature]</i>
5	4045	Rathod Sumir	<i>[Signature]</i>	30	4075	Kedam. K.S	<i>[Signature]</i>
6	4046	susaladi Bhagyashri	<i>[Signature]</i>	31	4076	Mashalkar S.R	<i>[Signature]</i>
7	4047	Helave Shilpa	<i>[Signature]</i>	32	4078	Rathod R.R.	<i>[Signature]</i>
8	4048	Vhananmane Ramkeshta	<i>[Signature]</i>	33	4052	Absent (06)	(32)
9	4049	Kotagonde Siddharam	<i>[Signature]</i>	34	4053		
10	4050	Belate. Vaibhav.	Belate.	35	4061		
11	4051	Mate Sachin	Mate	36	4062		
12	4054	Biradar P.G	<i>[Signature]</i>	37	4077		
13	4055	Shaiikh .S.S.	<i>[Signature]</i>	38	4072		
14	4056	Nimbargi R.P.	<i>[Signature]</i>	39		Strength - 38 Present - 32 Absent - 06	
15	4057	Mashate v.s.	<i>[Signature]</i>	40			
16	4058	Ajagonde G.G.	<i>[Signature]</i>	41			
17	4059	Kshirsagar S.S	<i>[Signature]</i>	42			
18	4060	lohande.V.S	<i>[Signature]</i>	43			
19	4063	Shaiikh. R. S.	<i>[Signature]</i>	44			
20	4064	Kaale. N. B.	<i>[Signature]</i>	45			
21	4065	Shaiikh A.N	<i>[Signature]</i>	46			
22	4066	Dhanke S.R.	<i>[Signature]</i>	47			
23	4067	Nimbargi R.S	<i>[Signature]</i>	48			
24	4068	Zadbuke S.S	<i>[Signature]</i>	49			
25	4070	Kaale R.B.	<i>[Signature]</i>	50			

Sign of Sr. Supervisor

Sign of Jr. Supervisor



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY

Unit Test sept. 2017 (C.G.P.A/C.B.C.S)

Name of Exam:- .V.Dit...test

Subject & Paper:- P.hys.ics....paper II

Date & Time:- 25/9/17....1:30 to 2:30 pm

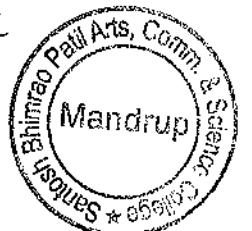
Name of Jr.supervisor:- M.I.S.I.....Birajdar 19.S

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	4041	patel Madhavi		26	4066	Dhanke S.R	
2	4042	Stoami Prekta		27	4067	Nimbargi R.V	
3	4043	Bamchande Ditya		28	4068	zadhoke S.S	
4	4044	vinod Parthod		29	4069	Madi A.AS	
5	4045	Ratnod Sumil.		30	4070	Kore R.B.	
6	4046	Susaladi Bhagyashri		31	4071	Kore L.R.	
7	4047	Shilpa Helure		32	4072		Ab
8	4048	Uhamanme Bamesidha		33	4073	sorrade P.P	
9	4049	kotagonde Siddharam		34	4074	patil.V.S	
10	4050	Belate Vaibhav.		35	4075	Kedar K.S	
11	4051	Mate Surhin		36	4076	Mashalkar S.R	
12	4052	/	Ab	37	4077		Ab
13	4053		Ab	38	4078	Rethod. R.R	
14	4054	Biradar P.G.		39			
15	4055	Shaikh S.S.		40	Total = 38		
16	4056	Nimbargi R.P.		41	Present = 32		
17	4057	Mahale V.S.		42	Absent = 06		
18	4058	Ajagonde S.G.		43			
19	4059	Kshirsagar S.S		44			
20	4060	lochande.V.S		45			
21	4061		Ab	46			
22	4062		Ab	47			
23	4063	Shalkh. R. S.		48			
24	4064	Nikhil.B.K		49			
25	4065	Shaikh A.N		50			

Sign of Sr. Supervisor:-

Sign of Jr. Supervisor:-

32



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY

Unit Test sept. 2017 (C.G.P.A/C.B.C.S)

Name of Exam:- B.S.C.I.

Subject & Paper:- Phy - II

Date & Time:- 25/09/17

Name of Jr.supervisor:- Dr. D. U. Patil

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	4001	Patil. Mahantesh. M.	Patil	26	4026	Harmoth R. S	Patil
2	4002	Kumthale. V.S	Kumthale	27	4027	Reithool. S. D	Reithool
3	4003	Sutae R. S.	Sutae	28	4028	Patil R. P.	R. P. Patil
4				29	4029	Jawalakote D. V.	Jawalakote
5	4005	Mane A. G	A. G. Mane	30	4030	Shendage K. A	Shendage K. A
6	4006	Birajdar S. S.	Birajdar	31	4031	Waghmode S. B	Waghmode
7	4007	Zudbuke A. N	Zudbuke	32	4032	Kardani. N. K.	Kardani
8	4008	Birajdar K. C	Birajdar	33	4033	Bluji G. P.	Bluji
9	4009	Kapase A. S	Kapase	34	4034	Birajdar J. V	Birajdar
10				35	4035	Umarani P. A	Umarani
11	4011	Diamanali. A. S.	Diamanali	36	4036	Shaikh A. M	Shaikh
12	4012	SARJE AD	SARJE	37	4037	Mishra Khor Y. B.	Mishra
13	4013	TARSKAR. K. M.	TARSKAR	38			
14	4014	Deshpande. S. V	Deshpande	39	4039	Bableshwar M. K	Bableshwar
15	4015	Kumbhar. S. S.	Kumbhar	40	4040	Devkote A. B.	Devkote
16	4016	Kanjari S. C	Kanjari	41			
17	4017	Kore. A. S	Kore	42			
18	4018	Bangonde P. J	Bangonde	43			
19	4019	Bhaujunde. V. C	Bhaujunde	44			
20	4020	Yale S. J.	Yale	45			
21	4021	Aiwale m. S.	Aiwale	46			
22	4022	Patil J. J.	Patil	47			
23	4023	Turabe. V. K	Turabe	48			
24	4024	Shetasonali P. T.	Shetasonali	49			
25	4025	Chetmore V. R.	Chetmore	50			

Sign of Sr. Supervisor: [Signature]

Sign of Jr. Supervisor: [Signature]
25/09/17

37732
(69) [Signature]



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY
Unit Test Feb-2018(C.G.P.A/C.B.C.S)

Name of Exam:- B.Sc. - I Sem - II
Feb-2018

Subject & Paper:- Phy. - II (Ele., mag. & static
Ele.)

Date & Time:- Monday
12-02-2018

Name of Jr. supervisor:- Dede K.A.

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	4001	Patil. Mohantesh. M	Patil	26	4039	Bableshwar N. K.	Patil
2	4002	Kumthale v.s	KR	27	4040	Devakate A.B.	Rishwari
3	4003	Manc. A.G.	A.G. Manc.	28			
4	4006	Birajdar S.S.	Gavita	29			
5	4007	Zadbuke A.N	Zadbuke	30			
6	4008	Birajdar K.C.	Patil	31			
7	4009	Kafase A.S.	Patil	32			
8	4013	Tavaskar K.M.	Patil	33			
9	4014	Deshpande S.V.	Shrivastava	34			
10	4017	Kose A.S.	Kose	35			
11	4018	Bhongade P.S.	Bhongade	36			
12	4019	Bhaurgunde v.c.	Bhaurgunde	37			
13	4021	Ajwalde M.S.	Ajwalde	38			
14	4022	Patil J.J.	Patil	39			
15	4023	Tumabe V.K.	Tumabe	40		Total - 40	
16	4024	Shetsandi P.T.	Shetsandi	41		Present - 27	
17	4025	Waghmare V.R.	Waghmare	42		Absent - 13	
18	4028	Patil R.R.	R.R. Patil	43			
19	4029	Jawalbete D.V.	Jawalbete	44			
20	4030	Shendage K.A.	Shendage	45			
21	4032	Kadani N.K.	Kadani	46			
22	4034	Bisardar J.V.	Bisardar	47			
23	4035	Umarani P.A.	Umarani	48			
24	4036	Shaikh A.M.	Shaikh	49			
25	4037	Mizakhor Y.B.	Mizakhor	50			

Sign of Sr. Supervisor: [Signature]

Sign of Jr. Supervisor: [Signature]

27-719
Total - 46



M.M.S 01

SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP
SCIENCE FACULTY

Unit Test sept. 2016(C.G.P.A/C.B.C.S)

Name Of Exam: Unit test sem II

Subject & Paper: Heat & thermodynamic's

Date&Time: 5/12/17 12 to 1 PM

Name of Jr. Supervisor: Dahivade P. B

Sr.No.	Roll No.	Name of Student	Sign	Sr.No.	Roll No.	Name of Student	Sign
1	4001	H. R. Rajput	<i>H.R.</i>	26			
2				27	4027	Kale V.K.	<i>Kale</i>
3				28	4028	Kore P.P.	<i>Pratik Kore</i>
4				29			
5	4005	S.M. Bandga	<i>S.M.B.</i>	30			
6				31	4031	Sumane N.M.	<i>Sumane</i>
7				32	4032	Rajput S.D.	<i>Geetanjali</i>
8				33	4033	Inamdar R.	<i>Inamdar</i>
9	4009	D.S Upase	<i>D.S.</i>	34			
10	4010	P.U. Gaikwad	<i>P.U.</i>	35			
11				36	4036	Tele M.M.	<i>M. Tele</i>
12	4012	Mali K.D.	<i>Mali</i>	37			
13	4013	Mali P.N.	<i>Mali</i>	38	4038	Waghmode R.S.	<i>R.S.</i>
14	4014	Patil N.M.	<i>Patil</i>	39			
15	4015	Male S.D.	<i>Male</i>	40	4040	Vhanmane B.J.	<i>Vhanmane</i>
16				41			
17	4017	Ghate G.D.	<i>G.D.</i>	42			
18	4018	Kumbhar G.A.	<i>G.A.</i>	43			
19				44			
20	4020	Kumte M.G.	<i>M.G.</i>	45			
21				46			
22				47			
23	4023	Kamale P.A.	<i>P.A.</i>	48			
24	4024	Ankalgi B.S.	<i>B.S.</i>	49			
25	4025	Birajdar B.S.	<i>B.S.</i>	50			

Sign of Sr. Supervisor: *Dahivade P.B.*

Sign of Jr. supervisor: *Dahivade P.B.*

18 absent
22 - present

22 + 20 = 52



SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP
SCIENCE FACULTY

Unit Test sept. 2016(C.G.P.A/C.B.C.S)

Name Of Exam: Physics - I

Subject & Paper: Heat & Thermodynamics

Date&Time: 10/21/2017,

Name of Jr.Supervisor: Dr. Y.S. Pathan

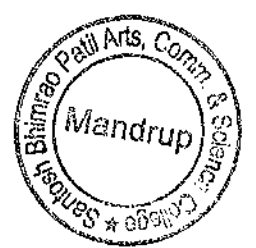
Sr.No.	Roll No.	Name of Student	Sign	Sr.No.	Roll No.	Name of Student	Sign
1	4041	Birajda M.S.	Birajda	26	4066	Jadmal N.M	Neha.
2	4042	Mote A.A	A.A.Mote	27	4067	Umbarje M.N	Umbarje
3	4043	Ab		28	4068	Ab	
4	4044	Banne.m.B	M.B.Banne	29	4069	Ab	
5	4045	Sonyedae.R.S	Sonyedae	30	4070	Kare.S.R	Kare
6	4046	Nandi N.A.	Nandi	31	4071	Ab	
7	4047	Ab		32	4072	S.C.Satav.	S.C.Satav.
8	4048	Rathod.A.D	Rathod	33	4073	Ab	
9	4049	Kamale.M.K	Kamale	34	4074	Gawade P.S	Gawade
10	4050	Jamadar S.n	Jamadar	35	4075	Pragad.L.R	Bhagavan
11	4051	Kambale P.P	Kambale	36	4076	Koli S.M	Smit
12	4052	Ab		37	4077	Gaikwad S.V	Gaikwad
13	4053	Shelar S.A	Shelar	38	4078	Biradar.S.B	Biradar
14	4054	Kamale D.A	Kamale	39			
15	4055	Konche.V.T	Konche	40			
16	4056	CHAVAN K.D.	Chavan	41			
17	4057	Deshmukh.P.R	Deshmukh	42			
18	4058	Athani M.L	Athani	43			
19	4059	Kulkarni.B.P	Kulkarni	44			
20	4060	Bhale N.B	Bhale	45			
21	4061	Ab		46			
22	4062	Hadpad K.P	Hadpad	47			
23	4063	Pujari B.R	Pujari	48			
24	4064	Beldar M.S	Beldar	49			
25	4065	Shejale S.H.	Shejale	50			

Sign of Sr. Supervisor: [Signature]

Sign of Jr. supervisor: Dr. Y.S. Pathan [Signature]

08 - Absent
20 - present

22 + 20 = 42



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY

Unit Test sept. 2017 (C.G.P.A/C.B.C.S)

Name of Exam:- B.Sc - I

Subject & Paper:- Physics - I

Date & Time:- 25/9/17
12:00 to 1 pm

Name of Jr. supervisor:- Dr. Nimbargi. S.A.

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	4001	Patil. Mahantesh	Patil	26	4027	Sachin Dharmanna	S.D. Patil
2	4002	Kumthale. V.S	Patil	27	4028	Patil. Rupini. R.	R.R. Patil
3	4005	Mane. A. G	A.G. Mane	28	4029	Jawalbete D.V.	Jawalbete
4	4006	Birajdar S.G	Birajdar	29	4030	Shendage K.A	Shendage K.A
5	4007	Zadbuke A.N	Amrta	30	4031	Waghmare S.B	Waghmare
6	4008	Birajdar K.C.	Birajdar	31	4032	Kadari. N.K.	Nkadari
7	4009	Kapase A.S	ASK	32	4033	Bhui G.P.	Bhui
8	4003	Sudae R.S.	Sudae	33	4034	Birajdar J.V	Birajdar
9	4011	Dwarandli A.S	Jone	34	4035	umarani P.A	P.umarani
10	4012	GAROLE A.D.	Garole	35	4036	Shaitch A.M	Shaitch
11	4013	Tavaskar. K.M.	Tavaskar	36	4037	Mishakhor Y.B	Mishakhor
12	4014	Deshpande S.V	Shyama	37	4039	Bableshekar N.K.	Bableshekar
13	4015	Kumbhar. S.S.	Sleek	38	4040	Devakate A.B.	Aishwarya
14	4016	Konjari S.C	Konjari	39			
15	4017	Kore. A.J	Kore	40	4004	Abul	
16	4018	Bangonde. P.S	Bangonde	41	4010	Abul	
17	4019	Bheirgunde. V.C	Bheirgunde	42	4038	Abul	
18	4020	Yele S.T.	Yele	43			
19	4021	Aiwade m.S	AIW	44			
20	4022	Patil I. I.	Patil	45			
21	4023	Turabe. V. K	Turabe	46			
22	4024	Shelasandli P.T.	Shelasandli	47			
23	4025	Waghmare V.R	Waghmare	48			
24	4026	Hirmath R.S	Hirmath	49			
25				50			

Total - 40
 Present - 37
 Absent - 03
 4004
 4010
 4038
 40

Sign of Sr. Supervisor

[Signature]
37 Present

Sign of Jr. Supervisor

[Signature]
37 + 32
69



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY
 Unit Test sept. 2017 (C.G.P.A/C.B.C.S)

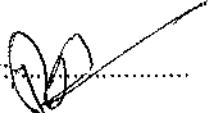
Name of Exam:- B.Sc. III

Subject & Paper:- Nuclear physics - XII

Date & Time:- 28/09/2017
12 to 1

Name of Jr. supervisor:- Salunke S.S

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6015	A.R. Phadate	A.R. Phadate	26			
2	6006	Kumbhar S.V	S.Kumbhar	27			
3	6009	Nawale V.B	V.B. Nawale	28			
4	6010	Kesawinshetti P.R	P.R. Kesawinshetti	29			
5	6011	Kamale D.A	D.Kamale	30			
6	6012	Boralkar P.P.	P.P. Boralkar	31			
7	6014	Vhanpure R.O.	R.O. Vhanpure	32			
8	6025	Ambekar A.S	A.S. Ambekar	33			
9	6028	Seelotagi S.M	S.M. Seelotagi	34			
10				35			
11				36			
12				37			
13				38			
14				39			
15				40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor: 

Sign of Jr. Supervisor: Salunke S.S



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY
Unit Test sept. 2017 (C.G.P.A/C.B.C.S)

Name of Exam:- B.Sc-III Sem-V

Subject & Paper:- phy - solid state phy - X

Date & Time:- 26/09/2017
12:00 - 1:00 pm

Name of Jr. supervisor:- Dede K.A.

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6006	Kumbhar S.V	<i>[Signature]</i>	26			
2	6009	Nawale V.B	<i>[Signature]</i>	27			
3	6010	Karvevishetti P.R	<i>[Signature]</i>	28			
4	6011	Kamale D.A	<i>[Signature]</i>	29			
5	6012	Boralkar P.P.	<i>[Signature]</i>	30			
6	6014	Thunke R.O.	<i>[Signature]</i>	31			
7	6025	Ambigkar A.S	<i>[Signature]</i>	32			
8	6028	Salotagi S.N	<i>[Signature]</i>	33			
9	6015	Phadatore A.R	<i>[Signature]</i>	34			
10				35			
11				36			
12				37			
13		Present - 08+01		38			
14		Absent - 00		39			
15		Total - 08+01 = 09		40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor: *[Signature]*

Sign of Jr. Supervisor: *[Signature]* 26/09/2017



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY
Unit Test sept. 2017 (C.G.P.A/C.B.C.S)

Name of Exam:- B.S.C. III

Subject & Paper:- physics - IX

Date & Time:- 25/09/17
12 to 1

Name of Jr. supervisor:- D.O.D.U. Patil

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6006	Kumbhar S.V	<u>[Signature]</u>	26			
2	6009	Nawalav B	<u>v.B. Nawalav</u>	27			
3	6011	Karmale D.A	<u>[Signature]</u>	28			
4	6012	Boralkar P.P	<u>P.P. Boralkar</u>	29			
5	6014	Vhanikute R.O.	<u>R.O. Vhanikute</u>	30			
6	6025	Absent		31			
7	6028	Salotagi Somaning	<u>[Signature]</u>	32			
8	6015	Phadate A.R	<u>A.R. Phadate</u>	33			
9	6010	Kuravishetti P.R	<u>[Signature]</u>	34			
10	6025	Ambigao A.S	<u>[Signature]</u>	35		Nil	
11				36			
12				37			
13				38			
14				39			
15		Strength - 10 09		40			
16		present - 09		41			
17		Absent - 01 00		42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor: [Signature]

Sign of Jr. Supervisor: [Signature]



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY
Unit Test sept. 2017 (C.G.P.A/C.B.C.S)

Name of Exam:- Bisc-III

Subject & Paper:- Physics Paper - XI

Date & Time:- 12.10.17 PM
27/9/17

Name of Jr. supervisor:- Babar P.A.

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	6006	Kumbhar S.V	<i>[Signature]</i>	26			
2	6009	Nuwale V.B	<i>[Signature]</i>	27			
3	6010	Kusuvishetti P.R	<i>[Signature]</i>	28			
4	6011	Kamale D.A.	<i>[Signature]</i>	29			
5	6012	Boralkar P.P.	<i>[Signature]</i>	30			
6	6014	Vhanbute R.O.	<i>[Signature]</i>	31			
7	6025	Ambigade A.S	<i>[Signature]</i>	32			
8	6028	Salotagi S.H	<i>[Signature]</i>	33			
9	6015	Phadate A.R	<i>[Signature]</i>	34			
10				35			
11			<u>(09)</u>	36		Nil	
12				37			
13				38			
14	Total	9		39			
15	Present	9		40			
16	Absent	00		41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor: *[Signature]*

Sign of Jr. Supervisor: *[Signature]*

(09)

27/9/17



**SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP
SCIENCE FACULTY**

Unit Test sept. 2016(C.G.P.A/C.B.C.S)

Name Of Exam: Unit Test

Subject & Paper: Physics

Date&Time: 11-2-2017
12 pm to 1 pm

Name of Jr.Supervisor: Upase V.H.

Sr.No.	Roll No.	Name of Student	Sign	Sr.No.	Roll No.	Name of Student	Sign
1	4263	Gaikwad S.B.		26			
2	4264	Dudhanis.k		27			
3	4266	Todakeri P.B.		28			
4	4267	Ab		29			
5	4268	Shukth R.M.		30			
6	4269	Biswan A.S		31			
7	4270	Sudami S.D.		32			
8	4271	Navale V.B		33			
9	4272	ab		34			
10				35			
11				36			
12				37			
13				38			
14				39			
15				40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor:

Sign of Jr. supervisor:



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY

Unit Test sept. 2017 (C.G.P.A/C.B.C.S)

Name of Exam:- B.S.C.-II

Subject & Paper:- Physics (Elect)

Date & Time:- 25/9/17
1:30 to 3:00 p.m.

Name of Jr. supervisor:- Dr. N. S. D. Patil

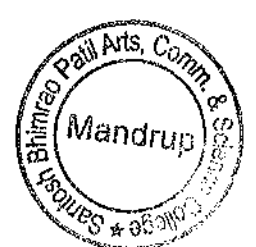
Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	5001	Benadar. S. B	<i>[Signature]</i>	26			
2	5003	Hadpad K.P.	<i>[Signature]</i>	27			
3	5004	Shejale S.H	<i>[Signature]</i>	28			
4	5006	Kulkarni. B.P	<i>[Signature]</i>	29			
5	5008	Gawade F.S	<i>[Signature]</i>	30			
6	5009	Bann. M.B	<i>[Signature]</i>	31			
7	5010	Bandgar S.P	<i>[Signature]</i>	32			
8	5011	Kumbale R.R	<i>[Signature]</i>	33			
9	5012	Kamale P.A.	<i>[Signature]</i>	34			
10	5014	Kamale D.A	<i>[Signature]</i>	35			
11	5018	Sangedar. R.S	<i>[Signature]</i>	36			
12	5019	Achle. S.R	<i>[Signature]</i>	37			
13	5021	Tele M.M	<i>[Signature]</i>	38			
14	5023	Rejani H.K	<i>[Signature]</i>	39			
15	5024	Ratnad. A.D	<i>[Signature]</i>	40			
16	5025	Nandi N.A.	<i>[Signature]</i>	41			
17	5026	Kumbale S.	<i>[Signature]</i>	42			
18	5027	Kumbale J.T	<i>[Signature]</i>	43			
19	5029	Kore. P.P.	<i>[Signature]</i>	44			
20	5030	Jamadar S.N.	<i>[Signature]</i>	45			
21				46			
22				47			
23				48			
24				49			
25				50			

*Present 20
Absent 00
Total 20*

Sign of Sr. Supervisor: *[Signature]*

Sign of Jr. Supervisor: *[Signature]*

[Handwritten mark]



SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP
SCIENCE FACULTY

Unit Test sept, 2016(C.G.P.A/C.B.C.S)

Name Of Exam: B.Sc-II, sem-II Subject & Paper: phy - modern phy - VI

Date&Time: 06/09/17 Name of Jr.Supervisor: Dede K.A.

1:30 - 2:30 PM

Sr.No.	Roll No.	Name of Student	Sign	Sr.No.	Roll No.	Name of Student	Sign
1	4121	Kuerwiraashutti P.		26	4154	Kore R.T.	
2	4122	Koshti V.S.		27	4155	wadkar S.R	
3	4123	Kore P.B		28	4156	Vhankar R.	
4	4124	Kumbhar S.V		29			
5	4125	Shaikh J.I		30			
6	4126	Koli S.J.		31			
7	4127	Ambiguz A.S.		32			
8	4128	Phadator A.R		33			
9	4129	Kamale D.A		34			
10	4181	Pujari G.R		35			
11	4132	Shejale S.T.		36			
12	4133	Absent -		37			
13	4134	Nawale V.B		38			
14	4135	Boralkar P.P		39			
15	4136	Chavan R.A		40			
16	4137	Mujawar N.B		41			
17	4138	Dalavi S.S		42			
18	4139	Absent -		43			
19	4140	Salotagi S.N		44			
20	4143	Katkar K.V		45			
21	4144	Jadhav A.S		46			
22	4145	Maryale N.R		47			
23	4146	Babalewar L.B		48			
24	4148	Hukkeri R.S		49			
25	4151	Shille S.S		50			

Total - 28
Present - 26
Absent - 02

(26)

Sign of Sr. Supervisor:

Sign of Jr. supervisor:



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
SCIENCE FACULTY

Unit Test sept. 2017 (C.G.P.A/C.B.C.S)

Name of Exam:- Unit test

Subject & Paper:- Physics... Paper II

Date & Time:- 25/9/17... 12.00 to 1.00

Name of Jr. supervisor:- Birajdar M.S

Sr. No	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	5001	Biradar. S. B	<u>Biradar</u>	26			
2	5003	Hadpad K.P.	<u>Hadpad</u>	27			
3	5004	Shejale S.H	<u>Shejale</u>	28			
4	5006	Kulkarni. B.P	<u>B.P.K</u>	29			
5	5008	Gawade F.S.	<u>Gawade</u>	30			
6	5009	Banne. m.B	<u>m.B. Banne</u>	31			
7	5010	Bandgar S.M	<u>S.M.P</u>	32			
8	5011	Kambale P.L.	<u>P.L.K</u>	33			
9	5012	Kamale P.A.	<u>P.A.K</u>	34			
10	5014	Kamale D.A.	<u>D.K. Kamale</u>	35			
11	5018	Sanyalke. R.S	<u>R.S.S</u>	36			
12	5019	Adke. S.R	<u>S.R.A</u>	37			
13	5021	Tele M.M	<u>M.Tele</u>	38			
14	5023	Rejpat H.K	<u>H.K.R</u>	39			
15	5024	Rathod. A.D	<u>A.D.R</u>	40			
16	5025	Nandi W.A.	<u>W.N</u>	41			
17	5026	Kambale S.L	<u>S.L.K</u>	42			
18	5027	Kamale J.P	<u>J.Kamale</u>	43			
19	5029	Kore P. P.	<u>P.P.K</u>	44			
20	5030	Jamadar S.N.	<u>S.N.J</u>	45			
21				46			
22				47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor: [Signature]

Sign of Jr. Supervisor: Birajdar M.S



**SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP
SCIENCE FACULTY**

Unit Test sept. 2016(C.G.P.A/C.B.C.S)

Name Of Exam: B.Sc. III

Subject & Paper: material science / Inorganic chemistry

Date & Time: 07/02/2017
12.00 to 1.00 pm

Name of Jr. Supervisor: Dr. Y.S. Pathan

Sr.No.	Roll No.	Name of Student	Sign	Sr.No.	Roll No.	Name of Student	Sign
1	4250	Sayyed - A.A	Ay no2	26		Total = 25 present = 23 Absent = 02	
2	4251	Ravani M.L.	Ravani	27			
3	4252	Tele P.R	Tele	28			
4	4253	Chavan P.G	Chavan.P.G	29			
5	4254	Kumbhar J.A	Kumbhar	30			
6	4255	Rasnetti M.S.	Rasnetti	31			
7	4256	Kerute S.M.	Kerute	32			
8	4257	Bedekar A.A	Bedekar.A.A	33			
9	4258	Ghodake L.B	Ghodake	34			
10	4259	Bisgudar R.S	Bisgudar	35			
11	4260	Javalkar A.S	Javalkar	36			
12	4261	Khandekar M.	Khandekar	37			
13	4262	Shelke A.N.	Shelke	38			
14	4265	Kumbhar L.D	Kumbhar	39			
15	4273	Waghmare A.A	Waghmare	40			
16	4274	Vhanmane P.M	Vhanmane	41			
17	4263	Gaikwad S.B	Gaikwad	42			
18	4264	Dudhani S.K	Dudhani	43			
19	4266	Tadakari P.B.	Tadakari	44			
20	4267	Ab		45			
21	4268	Shaikh R.M.	Shaikh	46			
22	4269	Bugade A.S.	Bugade	47			
23	4270	Swami S.D.	Swami	48			
24	4271	Navale V.B	Navale	49			
25	4272	Ab		50			

Sign of Sr. Supervisor:

Sign of Jr. supervisor: Dr. Y.S. Pathan



Chemistry present - 16 present
Physics - 11 present
09 present
25

Chemistry
III Yr.

Physics
III Yr.

B.Sc.-II
phy-III

Room-No-2, B1-No-2
4121 to 4156 = ~~25~~
28

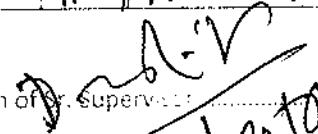
SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP
SCIENCE FACULTY

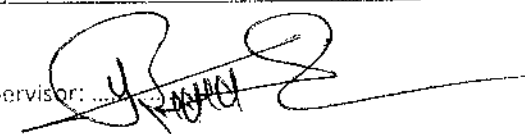
Unit Test sept. 2016(C.G.P.A/C.B.C.S)

Name Of Exam: B.Sc.-II, Sem-III Subject & Paper: General physics, Heat & sound (V)

Date & Time: Monday, 19/9/16 Name of Jr. Supervisor: P.M. Babar

Sr.No.	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	4121	Karavinskhali P.N.	P.N.Karavinskhali	26	4155	Wadkar S.R.	S.R.Wadkar
2	4122	Koshiti V.S.	V.S.Koshiti	27	4156	Vhankute R.O.	R.O.Vhankute
3	4129	Kore P.B.	P.B.Kore	28	4127	Ambigurnas	Ambigurnas
4	4124	Kumbhar S.V.	S.V.Kumbhar	29			
5	4125	Shaikh J.I.	J.I.Shaikh	30			
6	4126	Koli S.S.	S.S.Koli	31			
7	4128	Phadatare A.R.	A.R.Phadatare	32			
8	4129	Kamale D.A.	D.A.Kamale	33			
9	4131	Purari G.K.	G.K.Purari	34			
10	4132	Shejale S.T.	S.T.Shejale	35			
11	4133	Shaikh M.S.	M.S.Shaikh	36			
12	4134	Nawale V.B.	V.B.Nawale	37			
13	4135	P.P.Boralkar	P.P.Boralkar	38			
14	4136	R.A.Chavan	R.A.Chavan	39			
15	4137	Mujawar N.B.	N.B.Mujawar	40			
16	4138	Dabavi S.S.	S.S.Dabavi	41			
17	4139	KHATTE A.K.	A.K.Khatte	42			
18	4140	Salotagi S.M.	S.M.Salotagi	43			
19	4143	Katkar K.N.	K.N.Katkar	44			
20	4144	Jadhav A.S.	A.S.Jadhav	45			
21	4145	Maydale N.C.	N.C.Maydale	46			
22	4146	Babalekhar L.B.	L.B.Babalekhar	47			
23	4148	Haldar R.S.	R.S.Haldar	48			
24	4151	Shille S.S.	S.S.Shille	49			
25	4154	Kore R.P.	R.P.Kore	50			

Sign of Sr. Supervisor: 
19/09/2016

Sign of Jr. supervisor: 



SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP
SCIENCE FACULTY

Unit Test sept. 2016(C.G.P.A/C.B.C.S)

Name Of Exam: Unit Test

Subject & Paper: Classical Mechanics - IX (Physics)

Date&Time: 20-9-2016
1.30pm to 2.30pm

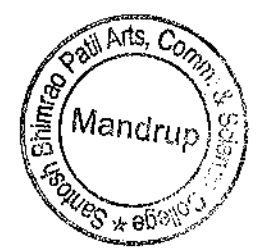
Name of Jr. Supervisor: Upase V. H.

Sr.No.	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	4263	Gaikwad S.B	<i>[Signature]</i>	26			
2	4264	Dudhanis.k	<i>[Signature]</i>	27			
3	4266	Todakari P.B.	<i>[Signature]</i>	28			
4	4267	Pachhi S.S	<i>[Signature]</i>	29			
5	4268	Shaikh R.M.	<i>[Signature]</i>	30			
6	4269	Bhagwan.A.	<i>[Signature]</i>	31			
7	4270	Soomi S.O.	<i>[Signature]</i>	32			
8	4271	Navar V.B	<i>[Signature]</i>	33			
9	4272	Mhetke A.J.	<i>[Signature]</i>	34			
10				35			
11				36			
12				37			
13				38			
14				39			
15				40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor: _____

Sign of Jr. supervisor: *[Signature]*

[Handwritten notes]
absent = 00
present = 09
20/09/2016



**SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP
SCIENCE FACULTY**

Unit Test sept. 2016(C.G.P.A/C.B.C.S)

Name Of Exam: B.Sc-III sem-V
(2016)

Subject & Paper: solid state phy - phy

Date & Time: 20/09/16

Name of Jr. Supervisor: Dale K.A.

12:00 - 1:00 pm

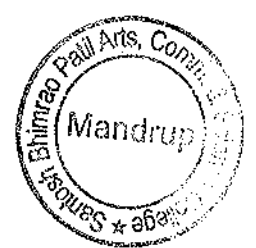
Sr.No.	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	4263	Gaitwad S.B	<i>[Signature]</i>	26			
2	4264	Oudhanis.K	<i>[Signature]</i>	27			
3	4266	Todakar PB.	<i>[Signature]</i>	28			
4	4267	Patil S.S	<i>[Signature]</i>	29			
5	4268	Shaikh R.M	<i>[Signature]</i>	30			
6	4269	Bagwan A.S	<i>[Signature]</i>	31			
7	4270	Swami S.D.	<i>[Signature]</i>	32			
8	4271	Navdev B	<i>[Signature]</i>	33			
9	4272	Inhete A.J.	<i>[Signature]</i>	34			
10	4250	Sanyal A.A	<i>[Signature]</i>	35			
11	4251	[Name]		36			
12				37			
13				38			
14				39			
15				40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47		Present = 09	
23				48		Absent = 00	
24				49			
25				50		<u>total = 09</u>	

Sign of Sr. Supervisor: *[Signature]*

Sign of Jr. supervisor: *[Signature]*

25/09/2016
Total = 09

[Signature]
22/09/2016



**SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP
SCIENCE FACULTY**

Unit Test sept. 2016(C.G.P.A/C.B.C.S)

Name Of Exam: B.Sc-III sem-E

Subject & Paper: phy (theor. phy.)

Date&Time: 21/09/2016
12:00 - 12:45 PM

Name of Jr. Supervisor: Deede K.A.

Sr.No.	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1				26			
2	4264	Dudhani S.K.	<i>[Signature]</i>	27			
3	4266	Todakari P.B.	<i>[Signature]</i>	28			
4	4267	Patil S.S.	<i>[Signature]</i>	29			
5	4268	Shaikh R.M.	<i>[Signature]</i>	30			
6	4269	Bagwan A.S.	<i>[Signature]</i>	31			
7	4270	Swami S.O.	<i>[Signature]</i>	32			
8	4271	Navale V.B.	<i>[Signature]</i>	33			
9	4272	Inhetze A.J.	<i>[Signature]</i>	34			
10				35			
11				36			
12				37			
13				38			
14				39			
15				40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Present = 09
Absent = 00

Total = 09

Sign of Sr. Supervisor: *[Signature]*

Sign of Jr. supervisor: *[Signature]*
21/09/2016

09



B.Sc. I

PHY

Roll No - 3, Bl. No - 01

4001 to 4040 = 40

SANTOSH E-HIMRAO PATIL COLLEGE, MANDRUP
SCIENCE FACULTY

Unit Test sept. 2016(C.G.P.A/C.B.C.S)

Name Of Exam: B.Sc. I, Sem I Subject & Paper: Mechanics, Properties of Matter (Paper I)

Date & Time: Monday 19/9/16 Name of Jr. Supervisor: Dr. Patil D. V.

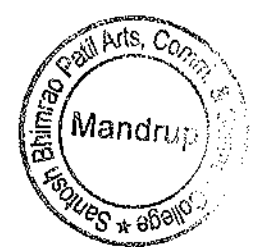
Sr. No.	Roll No.	Name of Student	Sign	Sr. No.	Roll No.	Name of Student	Sign
1	4001	H. R. Rev Patil	H.R.	26	4026	M. A. Ghodake	Ghodake
2	4002	M. S. Pujari	M.S.	27	4027	V. K. Kale	Vaishali
3	4003	M. D. Kamble	M.D.	28	4028	P. P. Kose	P. P. Kose
4	4004	Bagwan A. S.	Bagwan	29	4029	---	---
5	4005	Bandagar S. M.	Sunil	30	4030	G. M. Ningfode	Ningfode Gm
6	4006	Patwar R. D.	R.D.	31	4031	N. M. Samane	Samane
7	4007	Alamdar V. D.	Alamdar	32	4032	---	---
8	4008	Shivani B.	Shivani	33	4033	Y. R. Inamdar	Inamdar
9	4009	Upase D. S.	Dharm	34	4034	P. M. Jaisalkote	P.M.
10	4010	Garkwad P. V.	Parkwad	35	4035	T. M. Dhabate	T. M. Dhabate
11	4011	---	---	36	4036	M. M. Tele	M. Tele
12	4012	Mali K. D.	K.D.	37	4037	---	---
13	4013	Mali P. N.	Mali	38	4038	R. S. Waghmode	R. S.
14	4014	Patil N. M.	Patil	39	4039	R. V. Mashale	R. V.
15	4015	Mee S. D.	Sudha	40	4040	B. J. Vhanmane	Vhanmane
16	4016	---	---	41*	4032	Rajput A	---
17	4017	Ghate G. D.	G. D. Ghate	42			
18	4018	Kewate G. A.	Ganesh	43			
19	4019	---	---	44			
20	4020	Kunte M. G.	M.G.	45			
21	4021	Jogale A. S.	Jogale	46			
22	4022	Jogale K. R.	Jogale	47			
23	4023	Kamale P. A.	Sallani	48			
24	4024	Ankalgi B. S.	B. S.	49			
25	4025	Bandagar S. S.	S.S.	50			

absent - 06
present - 34

Signature of Sr. Supervisor: [Signature] 27/09/2016

Signature of Jr. supervisor: [Signature]

Total
34 + 32 = 66



KDOM-NO-3, Block-NO-3
 B.Sc-I 4041 to 4076 = 36
 PLY
 +77 = 97

SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP
 SCIENCE FACULTY

Unit Test sept. 2016(C.G.P.A/C.B.C.S)

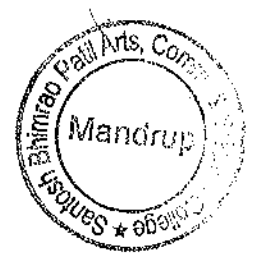
Name Of Exam: Subject & Paper: Physics- I
 Date&Time: 19/09/2016 Name of Jr.Supervisor: Prubans
 12:00 - 1:00

Sr.No.	Roll No.	Name of Student	Sign	Sr.No.	Roll No.	Name of Student	Sign
1	4041	Birajdar M.S	MBirajdar	26	4066	Jodmate N.M	N.M. Jodmate
2	4042	MOTE A.A.	A.A.MOTE	27	4067	Umbarjem.N.	mumbarjeme
3	4043	- A B -		28	4068	kumthekar.S	sketh
4	4044	Banne.m.B	M.B.Banne	29	4069	Bulage.R.M	R.M.
5	4045	Sangede.R.S	RS	30	4070	KARE.S.R.	SKARE
6	4046	Nandi N.A	NA	31	4071	- A b -	
7	4047	- A b -		32	4072	- A b -	
8	4048	Rathod.A.D	ARathod	33	4073	Malgunde.A.K	AMalgunde
9	4049	Kamale.m.k	Kamalemk	34	4074	Kamlesh.S.G	SKamlesh
10	4050	Jamadar.S.N	JN	35	4075	Pragada.B.D	leela Bhagawan
11	4051	Kambale R.P	R.Kambale	36	4076	Koli S.M	SKoli
12	4052	A b .		37	4077	Gaikwad S.V	Sr.Gaikwad
13	4053	Shejal A.S	AS	38			
14	4054	Kamale D.A	DKamale	39			
15	4055	Kevate V.T	VTKevate	40			
16	4056	CHAVAN K.D	KDChavan	41			
17	4057	Deshmukh.P.R	PRDeshmukh	42			
18	4058	Athani M.L	MLAthani	43			
19	4059	Kulkarni B.P	BPKulkarni	44			
20	4060	Bhale N.B	N.Bhale	45			
21	4061	Ghante P.K	PKGhante	46			
22	4062	Hadpad K.P	KPHadpad	47			
23	4063	Purani B.R	BRPurani	48			
24	4064	Beldad M.G	MBeldad	49			
25	4065	Shejale S.H	SHShejale	50			

assert - 05
 present - 32

Sign of Sr. Supervisor: [Signature]

Sign of Jr. supervisor: Prubans



**SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP
SCIENCE FACULTY**

Unit Test sept. 2016(C.G.P.A/C.B.C.S)

Name Of Exam: Unit Test II

Subject & Paper: Physics - XII

Date & Time: 21/12
12:00 pm

Name of Jr. Supervisor: D. N. Mahajan

Sr.No.	Roll No.	Name of Student	Sign	Sr.No.	Roll No.	Name of Student	Sign
1	4263	Patil S.S.	<i>[Signature]</i>	26			
2	4264	Dudhani S.K.	<i>[Signature]</i>	27			
3	4266	Todakari P.B.	<i>[Signature]</i>	28			
4				29			
5	4268	Shaikh R.M.	<i>[Signature]</i>	30			
6	4269	Bhargava A.S.	<i>[Signature]</i>	31			
7	4270	Sudami S.D.	<i>[Signature]</i>	32			
8	4271	Navadev B	<i>[Signature]</i>	33			
9				34			
10		<u>Present - 07</u>		35			
11		<u>Absent - 02</u>		36			
12		<u>01</u>		37			
13				38			
14				39			
15				40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

Sign of Sr. Supervisor:

Sign of Jr. supervisor: *[Signature]*



"Solapur Zilha samajseva Mandal Sanchalit"

**SANTOSH BHIMRAO PATIL ARTS, COMMERCE & SCIENCE
COLLEGE, MANDRUP
DEPARTMENT OF CHEMISTRY**

NOTICE

Date -1/02/2020

All B.Sc-III students are hereby informed that, Seminar will be held on 1/02/2020 at 10.30 am. so all students should be attend at the time of seminar.

Mr. Salunkhe S.S.
(Dept.of Chemistry)



PRINCIPAL

Principal
Santosh Bhimrao Patil Arts, Comm.
& Science College, Mandrup

"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil Arts, Commerce &
Science College, Mandrup.

Department of Chemistry

B.Sc III (2019-2020)

Name:..... Helave Shilpa Naganath.....

Class:..... B.Sc III..... Roll No:..... 6018.....

Topic:..... Synthetic polymers (Analytical chemistry).....

Synopsis:.....

- Synthetic polymer.....
- 1.) classification..... According to..... origin,.....
..... composition, methods of preparation and.....
..... General physical properties.....
- 1) According to origin i) Natural polymer.....
..... ii) synthetic polymer.....
- 2) According to composition i) organic 2) inorganic.....
3) based on methods of polymerisation.....
i) addition 2) condensation.....
4) based on General physical properties.....
1) Elastomer 2) thermoplastic 3) thermosetting.....
- 2) classification based on structure.....
A) based on chemical structure.....
B) Based on geometrical.....
C) cross linked polymer.....

Shilpa
Student Signature
Date:



22/1/2020

"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil Arts, Commerce &
Science College, Mandrup.

Department of Chemistry

B.Sc III (2019-2020)

Name: Miss. Saloni Sudhakar Nikambe

Class: Bsc-III Roll No: 6014

Topic: Sugar & alcohol Industry

Synopsis: Refining of raw Sugar -

This refining of raw sugar contains following steps - 1) Affination (washing)

2) Defecation

3) Decolourisation

4) Crystallisation 5) drying process

6) Screening or grading

In this method sugar washed in mother liquor which remove adhered coating of impurities - sepaⁿ of defecation method by using the Charcoal.

crystallisation is done by centrifugal sepaⁿ method.

The separation of various size grains is carried out by mechanical screens.

Student Signature

Date: - 22/01/2020



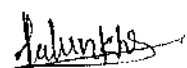
‘Solapur Zilha samajseva Mandal Sanchalit’


**SANTOSH BHIMRAO PATIL ARTS, COMMERCE & SCIENCE
COLLEGE, MANDRUP
DEPARTMENT OF CHEMISTRY**

NOTICE

Date -13/02/2019

All B.Sc-III students are hereby informed that, Seminar will be held on **15/02/2019 at 10.30 am.** so all students should be attend at the time of seminar.


Mr. Salunkhe S.S.
(Dept.of Chemistry)


PRINCIPAL
Principal
Santosh Bhimrao Patil Arts, Comm,
& Science College, Mandrup

"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil Arts, Commerce &
Science College, Mandrup.

Department of Chemistry

B.Sc III (2018-2019)

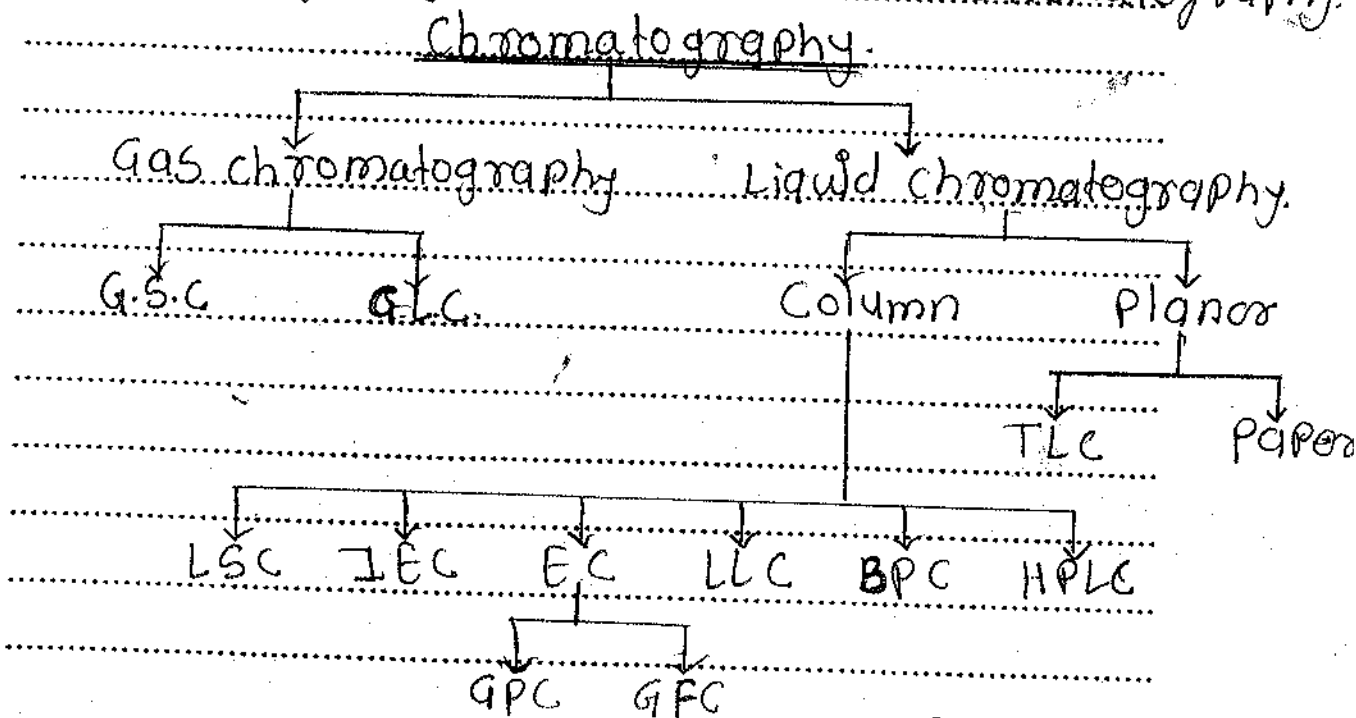
Name: SAMANE NAGNATH MALLINATH

Class: B.Sc-III

Roll No: 6001

Topic: Chromatography

Synopsis: Michael T. Swett (1906) invented a technique of separating plant pigments on calcium carbonate column by running petroleum ether and called it chromatography. Classification of Chromatography.



Saman
Student Signature
Date: 14-02-2019



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil Arts, Commerce &
Science College, Mandrup.

Department of Chemistry

B.Sc III (2018-2019)

Name: Salelaji Rajkumar Bhimashankar

Class: B.Sc. III Roll No: 6003

Topic: pharmaceuticals

Synopsis:

Anti malarials :-

Antimalarials are the chemotherapeutic agents which are used for the prevention and treatment of the tropical disease malaria. It is caused by genus plasmodium which is of the class of protozoa known as sporozoa. There are four different species which are responsible for human malaria namely *P. malarial*, *P. ovale*, *P. vivax* and *P. falciparum*.

Student Signature

Date:



"Solapur Zilha samajseva Mandal Sanchalit"

**SANTOSH BHIMRAO PATIL ARTS, COMMERCE & SCIENCE
COLLEGE, MANDRUP**

DEPARTMENT OF CHEMISTRY

TY B.Sc Seminar
Attendance Sheet
2018-2019

Sr.No.	Roll No.	Name of the Students	Sign
01	6001	Mr. Samane Nagnath M.	
02	6003	Mr. Salutagi Rajkumar B.	
03	6004	Mr. Chougule Sachin R.	
04	6005	Mr. Upase Dhanesh S.	
05	6006	Mr. Kamale Dinesh A.	
06	6007	Mr. Shejale Sachin A.	
07	6008	Mr. Mayanale Nagesh C.	
08	6009	Mr. Mhetre Shrikant D.	
09	6011	Mr. Sangedar Rahul S.	
10	6012	Mr. Rajput Hanmarsing K.	
11	6013	Mr. Banne Mhalappa B.	
12	6014	Mr. Nandi Nagaraj A.	
13	6015	Mr. Gawade Kamlesh S.	
14	6017	Ku. Patil Nurunnesh M.	
15	6018	Mr. Bandagar Sunil M.	
16	6021	Ku. Rajput Geetanjali D.	
17	6022	Ku. Vhanmane Bhagyashri J.	
18	6023	Mr. Umbarje Mahesh N.	
19	6025	Ku. Kale Vaishali K.	
20	6029	Ku. Inamdar Yasmin R.	
21	6030	Ku. Deshmukh Priyanka R.	
22	6033	Mr. Kore Pratik P.	
23	6034	Mr. Wadkar Swapnil R.	
24	6037	Mr. Pragada Leelabhagvan D.	
25	6038	Mr. Mhetre Anant J.	
26	6039	Mr. Salotagi Somaning N.	

Teacher Signature:-



"Solapur Zilha samajseva Mandal"
SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP
DEPARTMENT OF CHEMISTRY

NOTICE

Date - 13/01/2018

All B.Sc-III Students are here by Informed that ,our Seminar activity Will be Started on Monday 16/01/2018 at 11.30 am. So all Students Should be Attend at the time of Seminar .



Mr. Salunkhe S.S.

(Dept.of Chemistry)


PRINCIPAL
15.01.18

Principal,

Santosh Bhimrao Patil Arts, Comm.
& Science College, Mandrup.

"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup
Department of Chemistry

TY B.Sc Seminar
Attendance Sheet
2017-2018

Sr.No.	Roll NO.	Name of the Students	16/01/2018
			Sign
01	6001	Salim P. Mulla	<i>[Signature]</i>
02	6002	Siddharam S. Nadagatti	
03	6003	Suraj T. Shejale	<i>S.T. Shejale</i>
04	6004	Premika B. Kore	<i>P.B. Kore</i>
05	6005	Varsha S. Koshti	<i>Varsha</i>
06	6007	Saujanya S. Shille	<i>Shille</i>
07	6013	Yuvraj C. Zadbuke	<i>Zadbuke Y.C.</i>
08	6016	Kishor N. Katkar	<i>Kishor</i>
09	6017	Ravikant S. Hukkeri	<i>Hukkeri R.S.</i>
10	6018	Ashok K. Rathod	<i>Rathod</i>
11	6020	Ramesh R. Pujari	<i>R.R. Pujari</i>
12	6021	Sagar S. Koli	
13	6024	Priyanka K. Bagale	
14	6027	Laxmikant B. Babaleshwar	<i>[Signature]</i>

Teacher Signature :-



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup.

Department of Chemistry

B.Sc III (2017-2018)

Name: Mulla Salim Paigambar

Class: B.Sc. III Roll No: 6001

Topic: Thermodynamics

Synopsis: * Definition :- It is a physical science study of relationship between heat energy & many other form of energies.

* Free Energy [G] & work function [A] :-

$$G = H - TS \quad \& \quad A = E - TS$$

* Relation between G & A :-

$$\Delta G = \Delta A + P \Delta V$$

* Changes in G & A in isothermal process :-

$$dG = dH - TdS$$

$$\Delta A = \Delta E - T\Delta S$$

* Significance of G & A :-

$$-(\Delta G)_{p,T} = W_{net}$$

$$-(\Delta A)_T = W_{rev}$$

Salim
Student Signature

Date:



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup.

Department of Chemistry

B.Sc III (2017-2018)

Name: Shejale Suraj Tukarom

Class: B.Sc III Roll No: 6003

Topic: Chromatography [column chromatography]

Synopsis:

Column chromatography was developed by American petroleum chemist O.T. Bay in 1900. The column chromatography is also known as adsorption chromatography. This technique is solid liquid adsorption chromatography.

- a) Experimental technique
- b) Experimental procedure
 1. Column packing
 2. Application of the sample
 3. Development
 4. Detection
- c) Application of column chromatography

ST Shejale
Student Signature
Date: 10/01/2018



"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup.

Department of Chemistry

B.Sc III (2017-2018)

Name: Kore Premika Basaveshwar

Class: B.Sc III Roll No: 6004

Topic: Vitamin - A (Retinol)

Synopsis: The term vitamin is defined as the low molecular weight organic nutrient to be supplied from outside in small amount to promote growth & well being of an individual & their deficiency or inadequacy may lead to development of deficiency symptoms.

0 Vitamin - A (Retinol)

i) Introduction

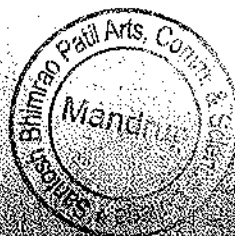
ii) Structure of vitamin-A

a) Molecular formula

b) vitamin-A has 1° hydroxy group

c) Five conjugated double bond system.

d) Beta-ionone ring system.



P. B. Kore
Student Signature
Date: 12/01/2018

"Solapur Zilla Samajseva Mandals"
Santosh Bhimrao Patil College, Mandrup.

Department of Chemistry

B.Sc III (2017-2018)

Name: Kashti Vansha Shivnand

Class: B.Sc-III Roll No: 6005

Topic: Solutions

Synopsis: Solution

A solution is defined as homogeneous mixture of ~~only~~ two substance or more chemical substances.

1) Definitions of certain Terms

2) Types of solution

3) Concentration of solution

4) Raoult's Law

i) ideal solution

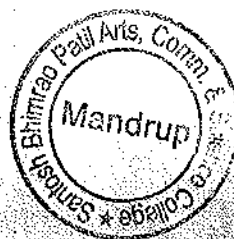
ii) Vapour pressure of ideal solutions

iii) Real or Non-ideal solutions

iv) Vapor pressure of Non-ideal solutions

v) Distinction between Ideal and

Non-ideal solution



Vansha
Student Signature
Date:

2.5.1 [3]

**SANTOSH BHIMRAO PATIL ARTS, COMMERCE & SCIENCE COLLEGE,
MANDRUP**

**Department of Physics
Seminar Report**

2017-18

Sr No	Name of Student	Roll No.	Seminar Topic
1	Miss. Kurvinshetti P.R.	6010	Operational Amplifier
2	Miss. Nawale V.B.	6009	Interference of light
3	Miss. Kumbhar S.V.	6006	Sound
4	Miss. Phadatare A.R.	6015	Elementary Particles
5	Miss. Ambekar A.S.	6025	Electronics Components and Circuit Devices
6	Miss. Vhankute R.O.	6014	Electrostatics
7	Miss. Boralkar P.P.	6012	Transistor
8	Miss. Kamale D.A.	6011	Optical Fibre
9	Mr. Salutagi S.N.	6028	Digital Electronics

2018-19

Sr No	Name of Student	Roll No.	Seminar Topic
1	Miss. Tele M.M.	6028	Diac
2	Miss. Hadpad K.P.	6027	Timer
3	Miss. Shejale S.H.	6026	Silicon Controlled Rectifier
4	Mr. Kamble R.R.	6024	Thermodynamics
5	Miss. Kamale P.A.	6031	Display Devices
6	Mr. Rathod A.D.	6016	Optical Fibre
7	Mr. Kore R.T.	6035	Elementary Particles
8	Mr. Pujari G.K.	6002	Transistor



2019-20

Sr No	Name of Student	Roll No.	Seminar Topic
1	Miss. Bamchand D.S.	6007	Triac
2	Miss. Kapase A.S.	6008	Field Effect Trasister
3	Miss. Javalkote D.V.	6009	Timer
4	Miss. Zadbuke A.N.	6010	Operational Amplifer
5	Miss Birajdar S.S.	6011	Diac
6	Mr. Birajdar I.V.	6004	Basics Electrostaics
7	Mr. Birajdar S.S.	6012	Optical Fibre



2, 5, 2 3

**SANTOSH BHIMRAO PATIL ARTS, COMMERCE & SCIENCE COLLEGE,
MANDRUP**

Department of Physics
Project Report

2017-18

Sr No	Name of Student	Roll No.	Project Topic	Guide Name
1	Miss. Kurvinshetti P.R.	6010	Synthesis and characterization of MnO thin films by SILAR method	Mr.Kore R.M.
2	Miss. Nawale V.B.	6009		
3	Miss. Kumbhar S.V.	6006		
4	Miss. Phadatare A.R.	6015	Synthesis and characterization of copper hydroxide thin film using anodization of Cu	
5	Miss. Ambigar A.S.	6025		
6	Miss. Vhankute R.O.	6014	Preparation of electroplated Ni thin film and their characterization	
7	Miss Boralkar P.P.	6012		
8	Miss. Kamale D.A.	6011		
9	Mr. Salutagi S.N.	6028		

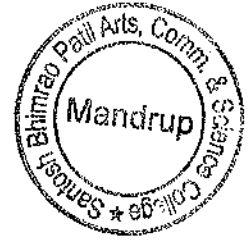
2018-19

Sr No	Name of Student	Roll No.	Project Topic	Guide Name
1	Miss. Tele M.M.	6028	Synthesis and characterization of Ni(OH) ₂ thin films by SILAR method	Dr.Kore R.M.
2	Miss. Hadpad K.P.	6027		
3	Miss. Shejale S.H.	6026	Synthesis and characterization of CuO thin films by CBD method	
4	Miss. Shaikh M.S.	6032		
5	Miss. Kamale P.A.	6031		
6	Mr. Rathod A.D.	6016	Synthesis and characterization of Fe ₂ O ₃ thin films by SILAR method	
7	Mr. Kore R.T.	6035		
8	Mr. Pujari G.K.	6002		
9	Mr. Kamble R.R.	6024		



2019-20

Sr No	Name of Student	Roll No.	Project Topic	Guide Name
1	Miss. Bamchand D.S.	6007	Comparative Study of House Hold Surface Active Substances	Miss. Tulsetti S.A.
2	Miss. Kapase A.S.	6008		
3	Miss. Javalkote D.V.	6009		
4	Miss. Zadbuke A.N.	6010		
5	Miss Birajdar S.S.	6011	Refractive Index of Hollow Prism for Different Liquids	Mr. Mhetre M.T.
6	Miss. Mane A.G.	6030		
7	Mr. Birajdar I.V.	6004		
8	Mr. Birajdar S.S.	6012		

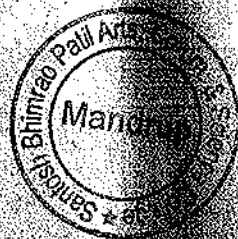


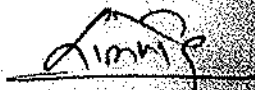
Santosh Bhimrao Patil Arts, Commerce & Science College,
Mandrup.

Student Seminar

B.A. I Sociology - 2017-18

Roll No.	Name
161	Ku. Kulkarni Anjali Pattabray
98	Ku. Sindkhede Parvati Siddam
28	Ku. Bagale Arti Shrishail
46	Ku. Shaikh Kajal Shamsuddin
25	Ku. Patil Priyanka Subhash
194	Ku. Ambigwan Aiman Shahjahan
253	Ku. Patil Nasrin Nurhusen




Dr. R.M. Mame
[Dept. of Sociology]

विषय : समाजशास्त्र

नाव : कु कुलकर्णी अंजली दत्तात्रय

इयत्ता

B.A.I

रोल.नं :- 161

विषय

समाजशास्त्र [सेमीनार]

सेमीनार विषय : समाजशास्त्राची वैज्ञानिक पद्धती

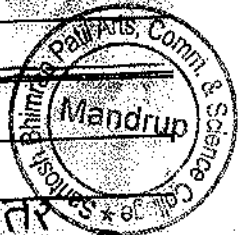
समाजाच्या अध्ययनासाठी त्या समाजशास्त्रीय संशोधन आणि अभ्यासक करतात. त्या वैज्ञानिक पद्धतीचा अवलंब पद्धती असे म्हणतात. समाजशास्त्राच्या वैज्ञानिक स्वरूप समजून घ्यासाठी समाजशास्त्राच्या वैज्ञानिक पद्धतीच्या पायाच्या अभ्यासणे महत्वाचे ठरते. त्या पायाखालील प्रमाणे आहेत :

समस्यासुत्रण :-

समस्यासुत्रण ही समाजशास्त्राच्या वैज्ञानिक पद्धतीतील पहिली पायरी आहे. या पायरीत संशोधक, अभ्यासविषय व अभ्यासाचे क्षेत्र निश्चित करतो. तसेच त्याला जर अभ्यासविषय व्यापक वारत असेल तर त्याला मर्यादा घालतो.

निरिक्षण :-

निरिक्षण म्हणजे केवळ पाहणे नाही तर पद्धतशीररितीने हेतुपूर्वक पाहणे होय. अभ्यासविषय निश्चित झाल्यानंतर संशोधक अभ्यासविषयासंबंधी विविध बाबींचे निःपक्षपातीपणे निरिक्षण करतो. या निरिक्षणाच्या माध्यमातून संशोधन विषयासंबंधी महत्वाची माहिती प्राप्त होते.



शेखर काजल आमशोइदीन बोलन. 46

नाव :- पार्वती शिप्राम सिद्धेडे

सोप मिश्राव पाटील मद्रूप
सेमिनार :- समूदाय
समाजशास्त्र

रीस नं - 98

GoodLuck Page No.

Date: Sem-1-17

2017-18

* समूदाय *

* प्रास्ताविक :-

सधेदिन सामाजिक जीवनाचे एक सर्वोत्तम उदाहरण म्हणून समूदायाचा उल्लेख केला जातो. सर्वसामान्यपणे ज्या समूहामध्ये लोकांचे सामाजिक जीवन संपूर्णपणे व्यतीत होते त्या समूहासाठी समूदाय ही संज्ञा वापरली जाते. प्रत्येक समाजामध्ये विविध समूदाय असतात.

* समूदायाच्या व्याख्या :-

1. "नोगारइसू यांच्यामते एका विशिष्ट भूभागावर वास्तव्य करण्यास आणि झालीपणाची मावज असणाऱ्या सामाजिक समूहाला समूदाय असे म्हणतात."

"ऑगबर्न व निगमॉफ यांच्यामते, मधीदिन मद्रूपदेशातील सामाजिक जीवनाच्या संपूर्ण साधनास समूदाय असे म्हणतात."

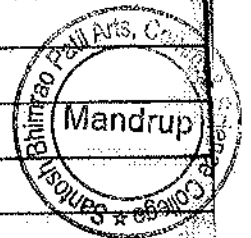
* समूदायाची वैशिष्ट्ये :-

1. विशिष्ट भूप्रदेश :-

प्रत्येक समूदाय हा एका विशिष्ट भूप्रदेशावर वसलेला असतो. या समूदायाच्या भौगोलिक स्थिती, नद्या, कालवे, डोंगर पर्वत इत्यादी स्थलेही असतात. लोकांच्या मनामध्ये या भूप्रदेशाविषयी असाधारण असते. लोकांच्या जीवनपद्धतीवर भूप्रदेशाच्या प्रभाव असतो.

2. विशिष्ट नाव :-

प्रत्येक समूदायाला एक विशिष्ट नाव असते. हे नाव समूदायातील लोकांच्यातून घडकावरून घडलेले असते. या नावाला शिमेलास असतो. समूदायातील लोकांमध्ये या नावाबद्दल स्वाभिमान असतो. लोक स्वतःची ओळख करून देतांना आपल्या

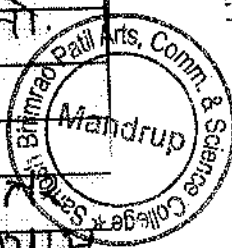


समाजशास्त्रीय वैज्ञानिक अभ्यासपद्धती :-
संशोधक आणि अभ्यासक समाजाच्या अध्ययनासाठी व्यावहारिक पद्धतीचा अवलंब करतात त्या वैज्ञानिक पद्धतीस समाजशास्त्राची वैज्ञानिक पद्धती असे म्हणतात. समाजशास्त्राचे वैज्ञानिक पद्धतीचे स्वरूप जाणून घेण्यासाठी समाजशास्त्राच्या वैज्ञानिक पद्धतीतील पायथ्या अभ्यासाला महत्त्वाचे द्यावे. त्या पायथ्यापुढीलप्रमाणे :-

① समस्या सूचना :- ही समाजशास्त्राची वैज्ञानिक पद्धतीतील पहिली पायरी आहे. यात संशोधक अभ्यासविषयाचा अभ्यासाचे निश्चित करतो. तसेच त्याला कोणत्या अभ्यासविषय व्यापक वास्तू असेल, तर त्याला काही मर्यादा घालतो.

② निरिक्षण :- निरिक्षण म्हणजे केवळ पाहणे नाही पद्धतशीर शितीने हेतुपूर्वक पाहणे होय. अभ्यासविषय निश्चित झाल्यानंतर संशोधक अभ्यासविषयासंबंधी विविध बाबींचे निपक्षपातीपणे निरिक्षण करतो. या निरिक्षणातून संशोधक विषयाची महत्त्वाची माहिती प्राप्त करतो.

③ वर्गीकरण :- संशोधकनी अभ्यासविषयाचे निरिक्षण केल्यानंतर जी माहिती प्राप्त होते ती माहितीचे समानगुण आणि समान वैशिष्ट्यांच्या आधारे वर्गीकरण केले जाते.



B.A.I

Student Seminar classmate

Date _____
Page _____

पाठिल प्रियंका सुगाव

रोल नं: 25

सामाजिकशास्त्राचे महत्त्व

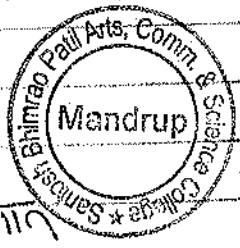
सामाजिक जीवनाचा शास्त्रीय पद्धतीने
 अभ्यास करणारे शास्त्र म्हणजे सामाजशास्त्र
 होय. वर्तमान स्थितीत सामाजिक विज्ञान ही
 जगभर चालू आहे. आज विकसित सामाजिक
 शास्त्रांच्या गुंतागुंतीचे हेतू असतात. आज या
 शास्त्रांच्या शाखा अन्वयात सामाजशास्त्र
 म्हणून विभागून विषय सामाजाचे महत्त्व
 सादर चालू आहे. हे महत्त्व शास्त्रीय सुद्धाच्या
 सादर स्पष्ट करता येते.

सामाजिक महत्त्व :-

सामाजिक शास्त्रामध्ये सामाजिक
 शास्त्राचा अन्वयात शास्त्रीय पद्धतीने अभ्यास
 करण्यात येतो. सामाजिक शास्त्राचे उपाय सुचवणे
 सामाजिक शास्त्राचे उपाय सुचवणे सामाजिक
 शास्त्राचे उपाय सुचवणे सामाजिक शास्त्राचे
 उपाय सुचवणे सामाजिक शास्त्राचे उपाय
 सुचवणे सामाजिक शास्त्राचे उपाय सुचवणे
 सामाजिक शास्त्राचे उपाय सुचवणे सामाजिक
 शास्त्राचे उपाय सुचवणे सामाजिक शास्त्राचे
 उपाय सुचवणे सामाजिक शास्त्राचे उपाय
 सुचवणे सामाजिक शास्त्राचे उपाय सुचवणे

सामाजिक शास्त्राचे महत्त्व :-

सामाजिक शास्त्राचे महत्त्व :- सामाजिक शास्त्राचे
 महत्त्व सामाजिक शास्त्राचे महत्त्व सामाजिक
 शास्त्राचे महत्त्व सामाजिक शास्त्राचे महत्त्व
 सामाजिक शास्त्राचे महत्त्व सामाजिक शास्त्राचे
 महत्त्व सामाजिक शास्त्राचे महत्त्व सामाजिक
 शास्त्राचे महत्त्व सामाजिक शास्त्राचे महत्त्व
 सामाजिक शास्त्राचे महत्त्व सामाजिक शास्त्राचे
 महत्त्व सामाजिक शास्त्राचे महत्त्व सामाजिक
 शास्त्राचे महत्त्व सामाजिक शास्त्राचे महत्त्व



B A Part- I

STUDENT SEMINAR

Year. 2015-16.

Sub- Geography

वेळ - 5 Minuts

No.	Name of the student	Roll No.	Seminar Subject
1)	कुबळे प्रदीप शिवभूती	180	उत्तर प्रदेश
2)	बायलवाड जयभीम सिद्धलिंग	50	प्रदेश
3)	मोगल महिष्य बाळनाथ	202	अभिनव कला
4)	कुबळे प्रकाश शिवभूती	21	प्रदेश
5)	क. वाडकर लक्ष्मी ज्योत्सनाकर	07	पृथ्वी अंतराळ
6)	क. अडोळे ज्योती पंडित	159	आद्या प्रदेश
7)	क. म्हजे ज्योती मल्लीनाथ	248	भारतीय प्रदेश
8)	क. पुजारी कावरी सिद्धाराम	18	भूदावरण व जलवायु
9)	क. फळार विगत अभिनवी	161	प्रदेश
10)	क. सतगुरु वैशुळा मल्लेश	01	पृथ्वी
11)	क. वाडकर प्राची राजेश्वर	193	वेगानुषंग
12)	क. राजगण क्रायची अश्विनी	185	प्राकृतिक



SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP

Unit Test / Tutorial / Home Assignment

Name of the Student Wadkar, Prachi RAJshekharClass B.A.T Semester I Roll No. 193Subject Geography Paper No. _____

Day & Date _____

Sign. of the Student P. R. Wadkar

Sign. of the Teacher _____

Que.No.	1	2	3	4	5	Total
Marks						

Start Your Answer from here

Student Seminar.वेगनरच्या सिद्धान्ताचे दीर्घात्मक परीक्षण (मुख्यमापन)

वेगनरच्या सिद्धान्ताचे दीर्घात्मक परीक्षण (मुख्यमापन)
करतांना खंडवहन सिद्धान्ताचे गुणदोष पाहिले पाहिजे.

गुण (पुर्वे):-

वेगनरने आपला सिद्धान्त बरीबर आहे
हे सांगण्यासाठी काही पुर्वे दिले आहेत हे पुर्वे
म्हणजे खंडवहन सिद्धान्ताचे गुण आहेत. हे पुर्वे
पुढीलप्रमाणे आहेत.

1) सुगर्भास्त्रिय पुर्वे:-

अक्षांशिक महासागराच्या पूर्व
पश्चिम किनाऱ्यालगतच्या प्रदेशात, सापडणाऱ्या खंडका-
च्या गुणधर्मात साम्यता आढळते.

2) पुर्णजीव विज्ञानविषयक पुर्वे:-

अक्षांशिक महासागराच्या पूर्व
पश्चिम किनाऱ्यालगतच्या प्रदेशात आढळणाऱ्या
वनस्पती व प्राण्यांच्या अवशेषात साम्यता आढळते.



SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP

Unit Test / Tutorial / Home Assignment

Name of the Student Balgar. Renuka. Mallesha

Class B.A.T Semester 01 Roll No. 01

Subject Geography (Seminar) Paper No. _____

Day & Date 15-09-2015

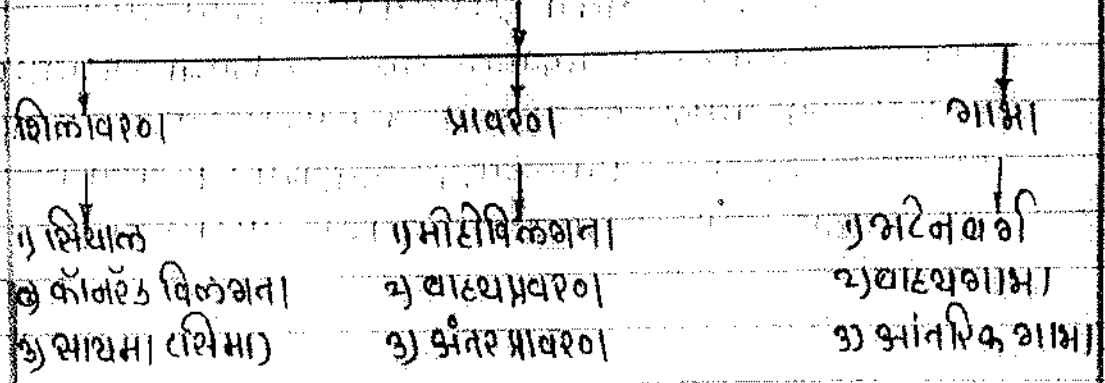
Sign. of the Student R. Mallesha Sign. of the Teacher _____

Que.No.	1	2	3	4	5	Total
Marks						

Start Your Answer from here

STUDENT SEMINAR

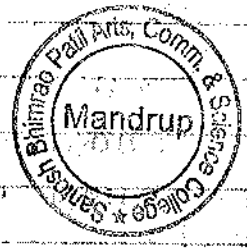
पृथ्वीचे अंतरंग



गाम्भा

भूगर्भासह्ये खणवोरुत ते उत्राकत खोती दरम्यान अक्षणाच्या धरणा पृथ्वीचा केंद्रभागा किंवा गाम्भा म्होतात. ह्या अर पृथ्वीच्या केंद्रभागाच्या जवळ अक्षलाच्यामुळे तापमान जास्त आहे. त्याचे तीन प्रकार आहेत.

- 1) भूतेजवरी
- 2) वाह्यगाम्भा
- 3) आंतरिक गाम्भा



SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP

Unit Test / Tutorial / Home Assignment

Name of the Student Rajimane Bhagyashri Ambanne

Class B.A. 1 Semester 1 Roll No. 185

Subject Geography (Seminar) Paper No. 1

Day & Date 15-9-2015

Sign. of the Student Rajimane B.

Sign. of the Teacher [Signature]

Que.No.	1	2	3	4	5	Total
Marks						

Start Your Answer from here

STUDENT-SEMINAR



1) प्राकृतिक भूगोलाची व्याप्ती :-

- त्याच्या :-
- ① पृथ्वी व नैसर्गिक घटकांची उदात्ती आणि त्यांचे वितरण यांचे अभ्यास करणारे शास्त्र म्हणजे प्राकृतिक भूगोल होय.
 - ② खंड व महासागर आणि त्यावरील नैसर्गिक वारील्ले यांचा अभ्यास म्हणजे प्राकृतिक भूगोल होय.
 - ③ भौगोलिक घटकांचा अभ्यास म्हणजे प्राकृतिक भूगोल होय.

* प्राकृतिक भूगोलाची व्याप्ती (क्षेत्र / विषय / सामग्री)
 प्राकृतिक भूगोलाचा अर्थ पाहिल्यावर
 रान, मृदावरील, वातावरण, जन्नावर व जीवावरण या
 घटकांचा अभ्यास होतो व स्पष्ट होतो. हीच या
 विषयाची व्याप्ती असून, हेच या विषयाचे क्षेत्र
 आहे.

SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP

Unit Test / Tutorial / Home Assignment

Name of the Student Begam Aminuddin FakirClass B.A.T Semester 1 Roll No. 161Subject geography Paper No. 1Day & Date 22/9/2015Sign. of the Student FakirSign. of the Teacher Jadhav

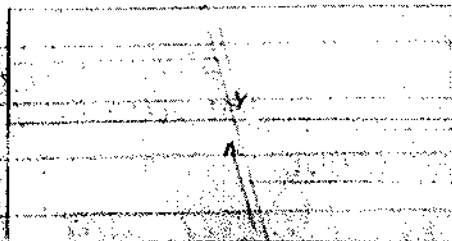
Que.No.	1	2	3	4	5	Total
Marks						

Start Your Answer from here

STUDENT SEMINAR

* प्रस्तरभंग - अंतर्गत शक्तिद्वारे निर्माण झालेल्या खनिज समानता टाल्यालीमुळे कुठकुठालील खडकावर लागण पडतो ज्यावेळेस हा लागण जास्त प्रमाणात वाहतो त्यावेळेस खडकाच्या थराला भेगा किंवा तळ पडतात त्यामधून खडक तुटण्याची क्रिया होते याच्याच प्रस्तरभंग असे म्हणतात. प्रस्तरभंगाच्या क्युपटल वृंग असेदेखील म्हणू शकतो.

① साध्या प्रस्तरभंग - कुठकुठामध्ये होणाऱ्या टाल्यालीमुळे वगैरे वाजून दाब पडल्यामुळे कुठकुठाला तड जाऊन खडकाचे थर झाली किंवा थर सरकतात या प्रकारामध्ये कुठकुठाली एक वाजून झाली सरकता तर दुसरी वाजून थर सरकते अशा प्रकारे होणाऱ्या प्रस्तरभंगास साध्या प्रस्तरभंग असे म्हणतात.



NO.:

3841

Solapur Zilla Samajseva Mandal's

SANTOSH BHIMRAO PATIL COLLEGE, MANDRUP

Unit Test / Tutorial / Home Assignment

Name of the Student

Pulsi Kavasi Siddharam

Class

B.A. J

Semester

I

Roll No.

78

Subject

Geography

Paper No.

1

Day & Date

Sign. of the Student

Sign. of the Teacher

Que.No.	1	2	3	4	5	Total
Marks						

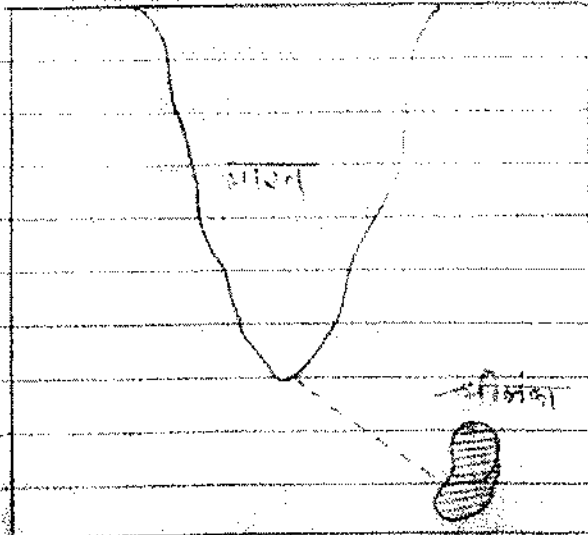
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STUDENT SEMINAR

पकरण २ रा मृदावरण व जलोवरण

(a) खंडीय बेटे :-

खंडीय बेटे असलेल्या बेटांना खंडीय बेटे असे म्हणतात. अशी बेटे समुद्रामध्ये असतात. परंतु जमिनीच्या तुटक रंगाने खंडीय जेठेले असतात. पूर्वी ही बेटे जमिनीला जोडलेली होती. परंतु जलगत, हालचाली टोऊन ही बेटे जमिनीपासून सागरामध्ये पुर उतरावर गेली. भारताच्या दक्षिणेकडील बाजूस अस-
 ाणारा श्रीलंका हा देश एक खंडीय बेटे म्हणून ओळखला जातो. हा देश भारताच्या दक्षिणेकडील टोकास जमिनीच्या तुटक रंगाने जोडलेला आहे.



Santosh Bhimrao Patil Arts, Commerce and Science College,
Mandrup, Tal. south Solapur, Dist. Solapur

Name of the programme : *Poster presentation / formation*

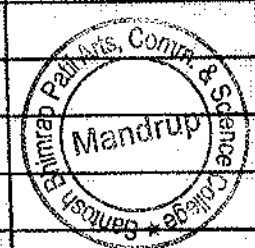
Date : *6 Aug, 2013.*

Name of the Guest Lecture / Resource Person :

Objectives :

Sr. No.	Name	Class	Roll No.	Feedback			Signature
				Excellent	Satisfactory	Not-Satisfactory	
1	Kumbhar Sushma	B.Sc-I	4003] classification of Rocks			<i>Kumbhar</i>
2	Kumbhar Prabhakar	B.Sc-I	4001				<i>Prabhakar</i>
3	Khyade Priyanka	B.Sc-I	4008] Rock cycle			<i>P.S. Khyade</i>
4	Nandargi Pradnya	B.Sc-I	4021				<i>Pradnya</i>
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~~Dr. S. K. Nimborji~~
Dr. S. K. Nimborji



**Santosh Bhimrao Patil Arts, Commerce and Science College,
Mandrup, Tal. south Solapur, Dist. Solapur**

Name of the programme: *Rock Sample Collection*

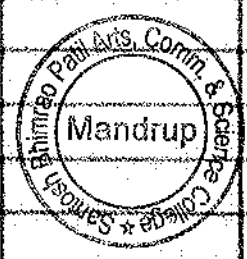
Date: *12 August 2018*

Name of the Guest Lecture /Resource Person :

Objectives: *To introduce various rocks and their characteristics*

Sr. No.	Name	Class	Roll No.	Feedback			Signature
				Excellent	Satisfactory	Not-Satisfactory	
1	<i>Mahendra Jadhav</i>	<i>B.Sc. I</i>	<i>4005</i>	<input checked="" type="checkbox"/>			<i>[Signature]</i>
2	<i>Sagar Pharekar</i>	<i>B.Sc. I</i>	<i>4016</i>	<input checked="" type="checkbox"/>			<i>[Signature]</i>
3	<i>Muramath Damodarayya</i>	<i>B.Sc. I</i>	<i>4023</i>	<input checked="" type="checkbox"/>			<i>[Signature]</i>
4	<i>Terane Sachin</i>	<i>B.Sc. I</i>	<i>4039</i>	<input checked="" type="checkbox"/>			<i>[Signature]</i>
5	<i>Vinayak Yewale</i>	<i>B.Sc. I</i>		<input checked="" type="checkbox"/>			<i>[Signature]</i>
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[Signature]
Dr. S.A. Nimbh



संतोष भीमराव पाटील महाविद्यालय, मंड्रुप.
अर्थशास्त्र व वाणिज्य अभ्यास मंडळ आयोजित

विद्यार्थी चर्चासत्र (बी.कॉम)

गुरुवार दि.०३-०९-२०१५

पहिले सत्र सकाळी ८.३० ते १०.००			
अ.	नाव	रोल नंबर	सादर करण्यात येणा-या पेपरचे नाव
१	कु.जाधव पुजा	३०३२	व्यावसायिक अर्थशास्त्राची तत्वे
२	कु.लोभे वैशाली	३०१४	मात्वसचा सिध्दांत
३	वाघ योगेश	३००७	भारतातील बेकारीची कारणे
४	उदय देशपांडे	३०४२	औद्योगिक आजारपण
०५	रुपाली उटगीकर	३०२६	सामाजिक अन्याय दूर करण्याचे उपाय
६	ज्योती कोरे	३०१२	प्रादेशिक असमतोलाचे महत्त्व
७	पुनम जाधव	३०३३	माल्सथ चा सिध्दांत
८	कु.खटटे वर्षा	३००३	बेकारीचे प्रकार व सरकारी उपाययोजना
९	मुल्ला दिलदार	३०११	भारतातील खाजगीकरणाचे परिणाम
१०	सरवदे धनराज	३००८	भारतातील दारिद्र्य निर्मुलणासाठी उपाययोजना
११	कु.आवटे सना	३०२८	भारतातील दारिद्र्याचे कारणे
दुसरे सत्र सकाळी ११.०० ते १.००			
१२	कु.कांबळे अंबिका	३०१३	भारतातील सामाजिक अन्यायाची कारणे
१३	श्रुतिका हसापुरे	३०१९	भारतातील बेकारीचे कारणे
१४	कुलकर्णी अभय	३०४३	सामाजिक अन्याय व विषमता
१५	शितल बंडगर	३०२९	औद्योगिक आजारपण
१६	करजगी राहूल	३०२१	भारतातील बेकारीचे परिणाम
१७	कु.बिसरजदार सरस्वती	३०५५	भारतातील उदारिकरणाचे टप्पे
१८	सुरेश बनसोडे	३०४०	औद्योगिक आजारपण
१९	कु.गुंडगे विजयालक्ष्मी	३०३७	व्यावसायिक अर्थशास्त्राचे तत्ते
२०	अजय नवले	३००५	अॅडम स्मिथचा सिध्दांत
२१	अशोक फुलारी	३०४१	भारतातील बेकारीचे कारणे
२२	प्रिती गायकवाड	३०१५	भारतातील अंदाजपत्रकाचे प्रकार
उदघाटन सत्रातील सादरीकरण			
अ.क्र	नाव	रोल नंबर	सादर करण्यात येणा-या पेपरचे नाव
१	रियाज मुल्ला	३०४५	भारतातील उदारीकरणाचे गुण/दोष
२	मोगलाई गंगाधर	३०१०	व्यावसायिक अर्थशास्त्राची व्याप्ती
३	श्रुती कमळे	३०२२	भारतातील खाजगीकरणाचे परिणाम
४	सचिन बनसोडे	३००६	सामाजिक अन्याय व विषमता



सोलापूर जिल्हा समाजसेवा मंडळ संचलित,
संतोष भीमराव पाटील महाविद्यालय, मंद्रूप

अर्थशास्त्र व वाणिज्य अभ्यास मंडळ आयोजित

विद्यार्थी चर्चासत्र (बी.कॉम)

गुरुवार

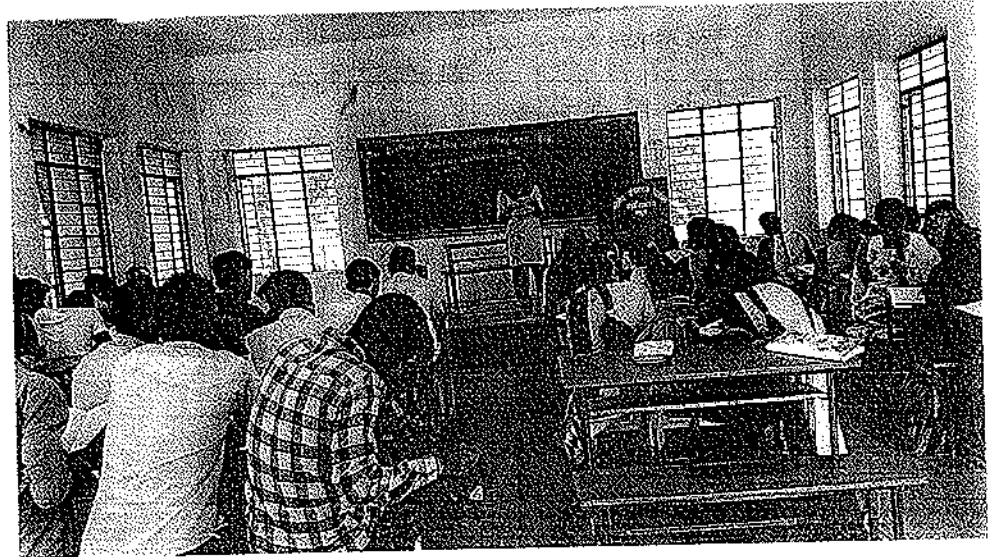
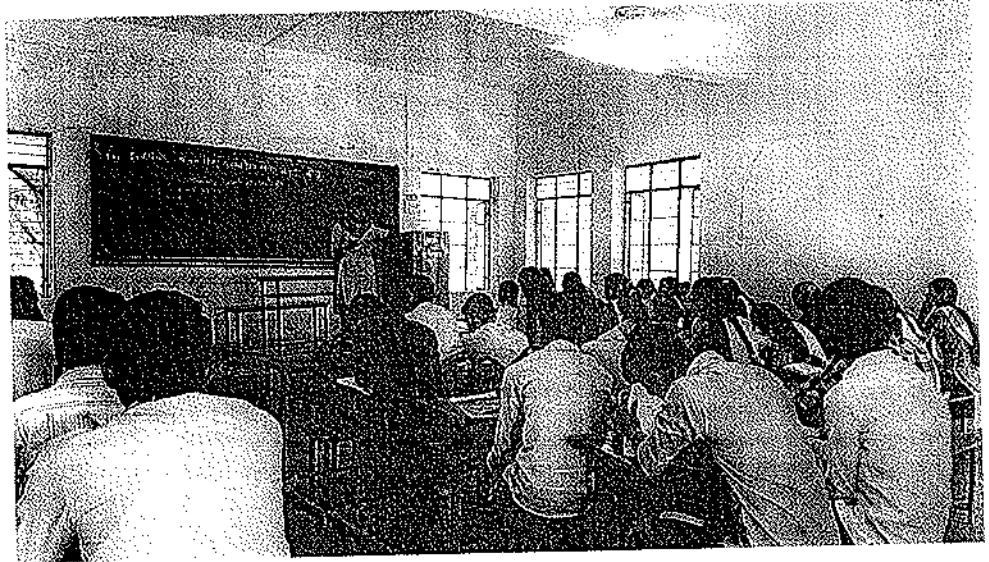
दि.०३-०९-२०१५

कार्यक्रम पत्रिका

- प्रस्तावना - प्रा. डॉ. एस. एन. कदम
- प्रतिमा पूजन व व्दीपप्रज्ज्वलन -
- अतिथी परिचय - प्रा. बी. एस. कोरे
- पाहुण्याचे व मान्यवरांचे स्वागत -
- पाहुण्यांचे मार्गदर्शन - प्राचार्य डॉ. राजेंद्र शेंडगे
- अध्यक्षीय मनोगत - प्राचार्य डॉ. बी. एम. भांजे
- आभार - प्रा. व्ही. एन. गायकवाड
- सूत्रसंचालन - सचिन बनसोडे (विद्यार्थी प्रतिनिधी)



English Seminar 2019



21.10.2019



विषय (ii) जागतिक व्यवस्थापन पद्धती

1. अश्विनी कुडपा गायकवाड (13/10/2019) (I)
विषय - जागतिकीकरण जागतिक व्यवस्थापन उद्देश

1. सुमन शेकपा शिवशरण (13/10/2019) (I)
विषय - जागतिकीकरणाची व्याख्या आणि वैशिष्ट्ये

2. सुपावी कुडपा जेकर (14/10/2019) (II)
विषय - जागतिकीकरण व व्यवस्थापन

4. कांबळे सिद्धाराम नाकु (15/10/2019) (IV)
विषय - बदलते आंतरराष्ट्रीय घेग.

5. जगन्नाथ काशिनाथ देशखरे (15/10/2019) (V)
(सर्व वस्तुनिष्ठ प्रश्न - वची)

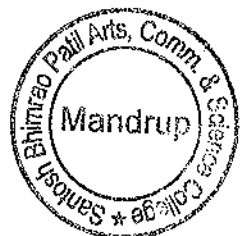
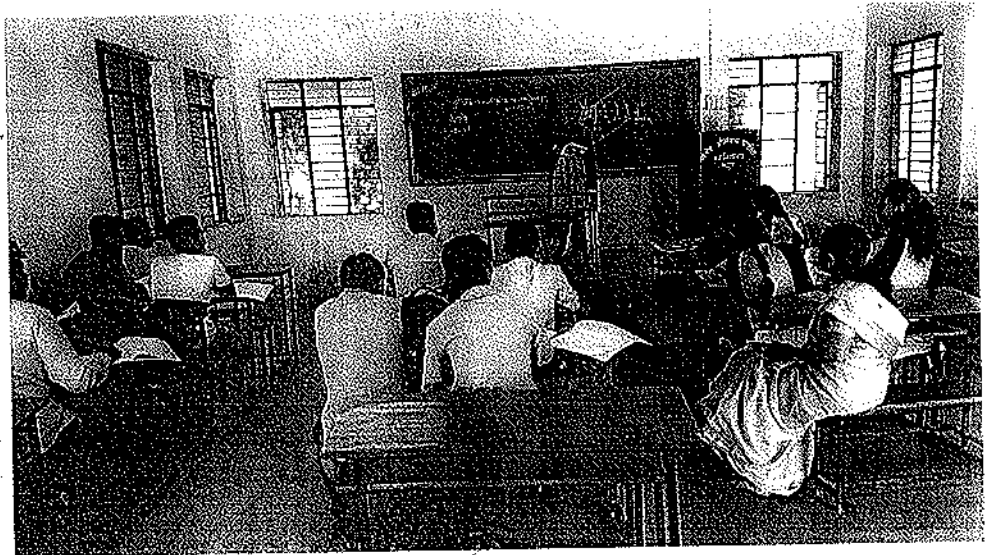
* 13/10/2019 to 15/10/2019. विद्यार्थी सेमिनार

Korve

वाणिज्य विभाग



Students Seminar
23.06.20

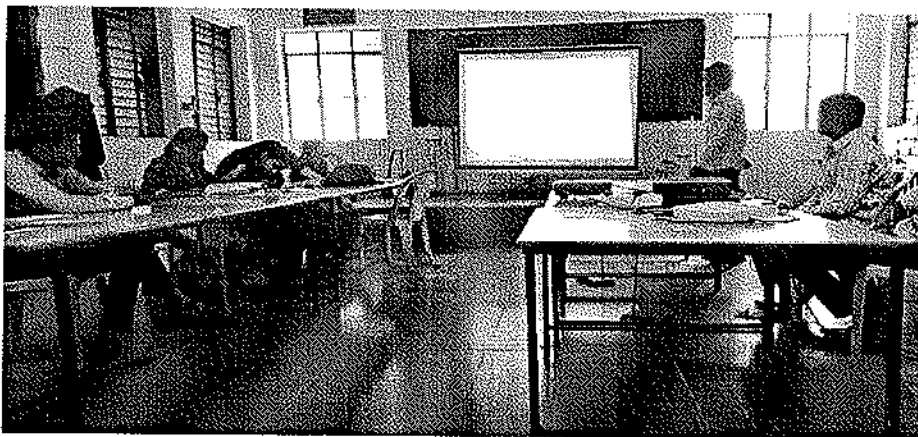
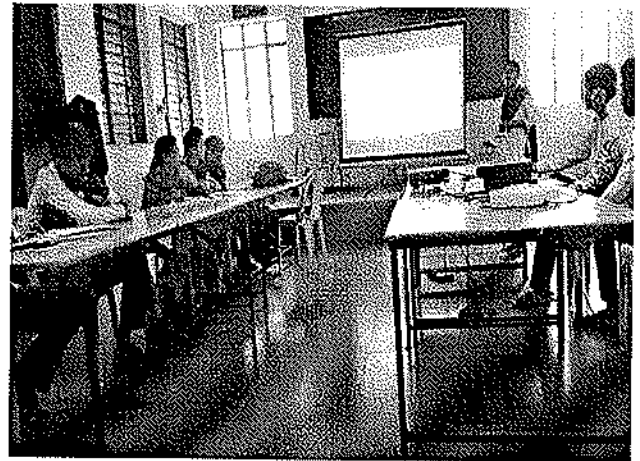
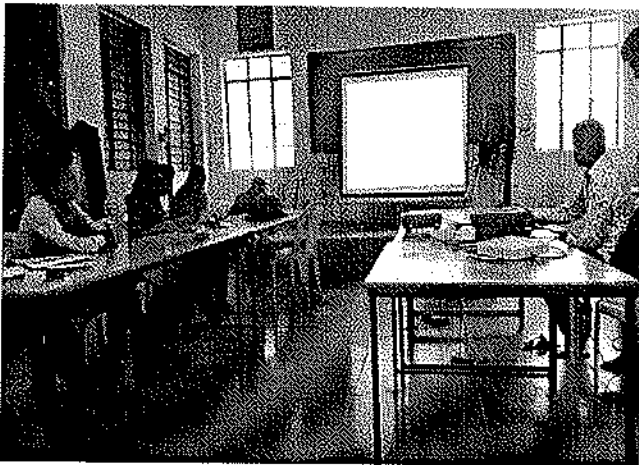
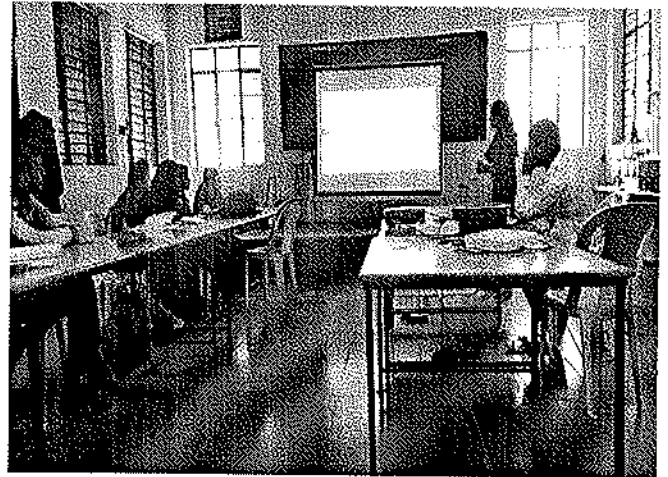
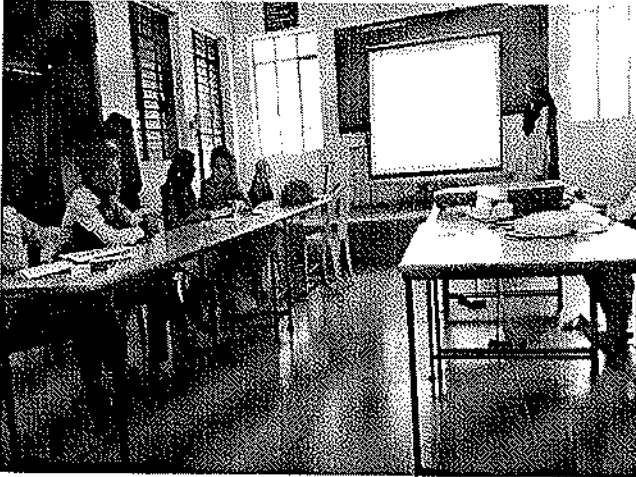


!! समाज सेवा हीच ईश सेवा !!

Solapur Zilla Samajseva Mandal's
Santosh Bhimrao Patil Arts, Commerce & Science College, Mandrup
DEPARTMENT OF PHYSICS

Departmental Activity

The student seminar activity held by department of Physics during the academic year 2019-20.



!! समाज सेवा हीच ईश सेवा !!

Solapur Zilla Samajseva Mandal's
Santosh Bhimrao Patil Arts, Commerce & Science College, Mandrup
DEPARTMENT OF PHYSICS

Departmental Activity

The student seminar activity held by department of Physics during the academic year 2017-18.

