Index

Remedial Coaching: 2019-2020

VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR
REMEDIAL COACHING: 2019-20
Department of Mathematics

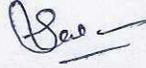## Notice

All the students of First year 2019-20 are hereby informed that first test will be conducted on 12/08/2019 . On basis of this test students will be sorted for remedial coaching 2018-19.

Venue: Room. No. 39

Time: 01:00 pm to 02:00 pm

(Mr. S. P. Patankar)
HEAD
Department of Mathematics
Vivekanand College, Kolhapur

VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR

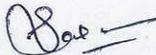## REMEDIAL COACHING: 2019-2020

Department of Mathematics

Notice

All the students of remedial coaching 2019-2020 are hereby informed that final test will be conducted on 13/09/2019.

Venue : in room. No. 39.

Time : 02:00 PM – 03: 00 PM

HEAD
Department of Mathematics
Vivekanand College, Kolhapur

VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR

REMEDIAL COACHING: 2019-2020

List

Department of Mathematics

Sr. No.	Name of the Student
1	Shweta Jitendra Koshti
2	Aditi Brijesh Chauhan
3	Sidhhi Suresh Kabir
4	Madhumati Tanaji More
5	Ashwini Ashok Patil
6	Ajay Ravasaheb Rajput
7	Sanket Ravindra Chougale
8	Prajyot Sanjay Mali
9	Shivam Nilkhanth Jawale

HEAD
Department of Mathematics
Vivekanand College, Kolhapur

VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR

REMEDIAL COACHING: 2019-2020

Department of Mathematics

Presenty

Date

Sr. No.	Name of the Students	12/08/2019	13/08/2019	19/08/2019	20/08/2019	26/08/2019
1	Shweta Jitendra Koshti	Koshti	Koshti	Koshti	Koshti	Koshti
2	Aditi Brijesh Chauhan	ABchauhan	ABchauhan	ABchauhan	ABchauhan	ABchauhan
3	Sidhhi Suresh Kabir	S.S.kabir	Ab	S.S.kabir	S.S.kabir	Ab
4	Madhumati Tanaji More	More	More	More	More	More
5	Ashwini Ashok Patil	AAPatil	AAPatil	AAPatil	Ab	AAPatil
6	Ajay Ravasaheb Rajput	ARajput	ARajput	Ab	ARajput	ARajput
7	Sanket Ravindra Chougale	Tchougle	Tchougle	Ab	Tchougle	Tchougle
8	Prajyot Sanjay Mali	Psmali	Psmali	Psmali	Psmali	Psmali
9	Shivam Nilkhanth Jawale	SNJawale	SNJawale	SNJawale	SNJawale	SNJawale

Date

Sr. No.	Name of the Student	27/08/2019	02/09/2019	03/09/2019	09/09/2019	10/09/2019
1	Shweta Jitendra Koshti	Koshti	Koshti	Koshti	Koshti	Koshti
2	Aditi Brijesh Chauhan	ABchauhan	Abchauhan	Abchauhan	Abchauhan	Abchauhan
3	Sidhhi Suresh Kabir	S.S.kabir	S.S.kabir	S.S.kabir	S.S.kabir	S.S.kabir
4	Madhumati Tanaji More	Ab	More	More	More	Ab
5	Ashwini Ashok Patil	AAPatil	AAPatil	Ab	AAPatil	AAPatil
6	Ajay Ravasaheb Rajput	ARajput	ARajput	ARajput	ARajput	ARajput
7	Sanket Ravindra Chougale	Tchougle	Tchougle	Tchougle	Tchougle	Tchougle
8	Prajyot Sanjay Mali	Psmali	Psmali	Psmali	Psmali	Psmali
9	Shivam Nilkhanth Jawale	SNJawale	SNJawale	SNJawale	SNJawale	SNJawale

HEAD
Department of Mathematics
Vivekanand College, Kolhapur

VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR

REMEDIAL COACHING: 2019-2020

Department of Mathematics

Progress

Sr. No.	Name of the Student	First Test	Second Test	Progress
1	Shweta Jitendra Koshti	10	12	10%
2	Aditi Brijesh Chauhan	08	14	30%
3	Sidhhi Suresh Kabir	08	14	30%
4	Madhumati Tanaji More	06	16	50%
5	Ashwini Ashok Patil	02	16	70%
6	Ajay Ravasaheb Rajput	04	18	70%
7	Sanket Ravindra Chougale	10	10	00%
8	Prajyot Sanjay Mali	08	12	20%
9	Shivam Nilkhanth Jawale	06	06	00%

HEAD
Department of Mathematics
Vivekanand College, Kolhapur

Date : 12/08/2019   Marks : 20

Name :

Note : Tick mark the correct alternative.

Q.1) The derivative of x^2 is....

    A) $2x$ B) x

    C) 2 D) 0

Q.2) If $\int_0^a 3x^2 dx = 8$, find the value of a.

    A) 2 B) -3 C) 3 D) -2

Q.3) If $y = e^{mx} + e^{-mx}$ then $\frac{d^2y}{dx^2} = \cdots$

    A) $m^2 y$ B) my c) $-my$ D) $-m^2 y$

Q.4) If $y = 5^x$ then $\frac{dy}{dx} = \cdots$

    A) $x(5^{x-1})$ B) $\frac{5^x}{\log 5}$ C) $5^x \log 5$ D) None Of these

Q.5) If A and B are symmetric matrices of same order, then $AB - BA$ is a ....

    A) $Skew - symmetric\ matrix$ B) $Symmetric\ matrix$

    C) $Zero\ matrix$ D) $Identity$

Q.6) If $A = \begin{bmatrix} 0 & 2 \\ 2 & 0 \end{bmatrix}$ then A^2 is...

    A) $\begin{bmatrix} 0 & 4 \\ 4 & 0 \end{bmatrix}$ B) $\begin{bmatrix} 4 & 0 \\ 4 & 0 \end{bmatrix}$ C) $\begin{bmatrix} 0 & 4 \\ 0 & 4 \end{bmatrix}$ D) $\begin{bmatrix} 4 & 0 \\ 0 & 4 \end{bmatrix}$

Q.7) If A be square matrix of order 3×3 and k scalar, then $|kA|$ is equal to....

    A) $k|A|$ B) $|k||A|$ C) $k^3|A|$ D) None Of these

Q.8) If $n(A) = m, n(B) = n$ then the total number of non-empty relations that can be defined

    from A to B is...

    A) m^n B) $n^m - 1$ C) $mn - 1$ D) $2^{mn} - 1$

Q.9) The maximum value of $z = 3x + 4y$ subjected to constraints $x + y \le 4, x \ge 0$ and $y \ge 0$

    A) 12 B) 14 C) 16 D) 18

Q.10) $\int_0^3 x^2 \, dx = \cdots$

    A) 2   B) $\frac{27}{3}$ C) $\frac{8}{3}$ D) $\frac{8}{9}$

Q.11) The magnitude of the vector $6\hat{\imath} + 2\hat{\jmath} + 3\hat{k}$ is equal to....

    A) 5   B) 1   C) 7   D) 12

Q.12) The linear inequalities or equations or restrictions on the variables of a linear programming problem are called.....

    A) a constraints   B) desicion variables

    C) objective functions   D) None of these

Q.13) If $f(x) = x^3 - 12x^2 + 45x + 8$ at which point does f(x) has its maximum?

    A) 1   B) 7   C) 3   D) 5

Q.14) The degree of the differential equation $\left(\frac{d^2 y}{dx^2}\right)^{\frac{2}{2}} + 4 - 3\frac{dy}{dx} = 0$ is....

    A) 2   B) 1   C) 3   D) $\frac{2}{3}$

Q.15) The maximum number of equivalence relations on the set $A = \{1,2,3\}$ are...

    A) 1   B) 2   C) 3   D) 5

Q.16) The number of binary operations on the set $\{a, b\}$ are....

    A) 10   B) 16   C) 20   D) 8

Q.17) If $f(x) = x^3 - \frac{1}{x^3}$, then $f(x) + f(1/x) = \cdots$

    A) $2x^3$ B) $2\frac{1}{x^3}$ C) 0   D) 1

Q.18) Which of the following function is odd function?

    A) sinx   B) tanx   C) Sec x   D) cosec x

Q.19) The line $y = x + 1$ is a tangent to the curve $y^2 = 4x$ at the point....

    A) (1,2)   B) (2,1)   C) (-1,2)   D) (1,-2)

Q.20) The differential equation of the function $c + 4yx = 0$ is....

    A) $xy + \frac{dy}{dx} = 0$ B) $x\frac{dy}{dx} + y = 0$ C) $\frac{dy}{dx} - 4xy = 0$ D) $x\frac{dy}{dx} + 1 = 0$

Date : 13/09/2019   Marks : 20

Name :

Note : Tick mark the correct alternative.

Q.1) Value of k, for which $A = \begin{bmatrix} k & 8 \\ 4 & 2k \end{bmatrix}$ is a singular matrix is...

    A) 4   B) -4 C) ± 4 D) 0

Q.2) $\int_0^{\frac{\pi}{2}} \cos x \, dx = \cdots$

    A) 1   B) $\frac{1}{2}$ C) $\frac{-1}{2}$ D) -1

Q.3) The linear inequalities or equations or restrictions on the variables of a linear programming problem are called.....

    A) *a constraints*   B) *desicion variables*

    C) *objective functions*   D) *None of these*

Q.4) If $y = x^3 \log x$ then $\frac{dy}{dx} = \cdots$

    A) $x^2(1 + 3\log x)$ B) $x^2(1 - 3\log x)$ C) $x^3(1 + \log x)$ D) $x^3(1 + 3\log x)$

Q.5) The function f(x) = x + cos x is

    A) *Always increasing*   B) Always decreasing

    C) *increasing for a certain range of x*   D) *None of these*

Q.6) The value of the x if $\begin{vmatrix} 2+x & 3+x & 4+x \\ 1 & 2 & -1 \\ 2 & 1 & 3 \end{vmatrix} = 0$

    A) $x = -3$ B) 13   C) $\frac{-1}{13}$ D) -13

Q.7) A solution which satisfies the non-negativity restrictions of L.P.P. is called as ....

    A) Feasible solution   B)Optimal solution

    C) Non-feasible solution   D) *None of these*

Q.8) Set A has 3 elements, and set B has 4 elements. Then the number of injective mappings that can be defined from A to B is

    A) 144   B) 12   C) 24   D) 64

Q.9) If $A = \begin{bmatrix} 0 & 3 \\ 3 & 0 \end{bmatrix}$ then A^2 is...

A) $\begin{bmatrix} 0 & 9 \\ 9 & 0 \end{bmatrix}$ B) $\begin{bmatrix} 4 & 0 \\ 4 & 0 \end{bmatrix}$ C) $\begin{bmatrix} 0 & 4 \\ 0 & 4 \end{bmatrix}$ D) $\begin{bmatrix} 4 & 0 \\ 0 & 4 \end{bmatrix}$

Q.10) The magnitude of the vector $4\hat{\imath} + 2\hat{\jmath} + 4\hat{k}$ is equal to....

A) 5   B) 7   C) 6   D) 12

Q.11) The number of binary operations on the set $\{a, b\}$ are...

A) 10   B) 12   C) 16   D) 20

Q.12) If $P(A) = 0.8, P(B) = 0.5$ and $P(B/A) = 0.4$, what is value of $P(A \cap B) =$?

A) 0.5   B) 0.25   C) 0.1   D) 0.32

Q.13) If l,m,n are the direction cosines of a line, then...

A) $l^2 + m^2 + 2n^2 = 1$ B) $l^2 + m^2 + n^2 = 1$

C) $2l^2 + m^2 + n^2 = 1$ D) $l^2 + 2m^2 + n^2 = 1$

Q.14) If $x = t^2, y = t^3$, then $\frac{d^2y}{dx^2} =$...

A) $\frac{3}{2}$ B) $\frac{3}{4t}$ C) $\frac{3}{2t}$ D) $\frac{3t}{2}$

Q.15) The line $y = x + 3$ is a tangent to the curve $y^2 = 4x$ at the point....

A) (1,2)   B) (2,1)   C) (−1,2)   D) (1,−2)

Q.16) If $\int_0^a 3x^2 dx = 27$, find the value of a.

A) 2   B) 3   C) − 3   D) − 2

Q. 17) The scalar product of 5i+j-3k and 3i-4j+7k is:

A) 15   B) − 15   C) 10   D) − 10

Q.18) The magnitude of the vector $6\hat{\imath} + 2\hat{\jmath} + 3\hat{k}$ is equal to....

A) 5   B) 1   C) 7   D) 12

Q.19) If A be square matrix of order 3×3 and k scalar, then $|5A|$ is equal to....

A) $5|A|$ B) $|25||A|$ C) $5^3|A|$ D) $None\ Of\ these$

Q.20) The directional ratios of the normal to the plane $7x + 4y - 2z + 5 = 0$ are...

A) 7,4,−2   B) 7,4,5   C) 7,4,2   D) 4,−2,5

2019-20

Report: Remedial Coaching

1. **Name of Department** : **Mathematics**
2. **Name of Organized Activity** : Remedial Coaching
3. **Date/ Duration** : 12/08/2019 – 13/09/2019
Aims and Objectives : 1. To Enhance Academic Performance of slow learners
   2. To Address Individual Needs of Advanced and slow learners
4. **No. of beneficiaries** : Total = 09

Students	Male	04
	Female	05

6. **Expenditure & funding agency** : Nill
7. **Brief description** : On the behalf of Mathematics department remedial coaching was arranged for Slow learners. First test was taken on 12/08/2019 of 20 marks. Slow learners were chosen on basis of marks in first test. Total ten number of lectures were arranged from 12/08/2019 to 10/09/2019. Former faculty of department of mathematics conducted lectures in room no. 39 at 09:30 AM to 30 AM on each Friday
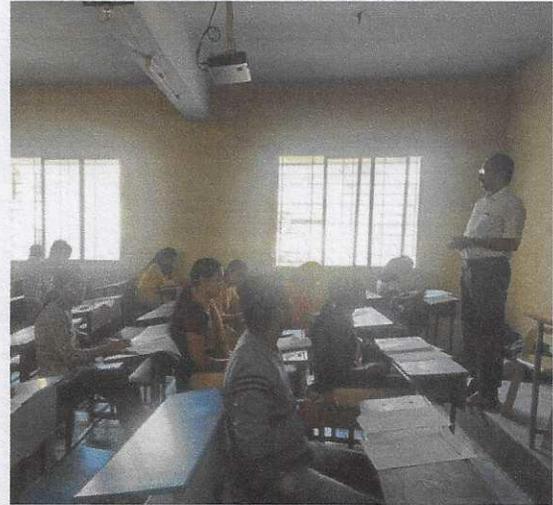
11:

and Saturday. Students were eager to learn and were grateful to organiser.
8. **Outcomes** : 1. Performance of slow learners is improved.
2. Students improved relation with Professors and fellow students.

9. **Photos** : Enclosed
10. **Signatures of coordinator/ organizer**: Mr. S.P. Patankar

HEAD
Department of Mathematics
Vivekanand College, Kolhapur