'ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षणप्रसार'
-शिक्षण महर्षी डॉ. बपुजी साळुंखे

# VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR

# Department of Statistics

# REMEDIAL COACHING

## 2021-2022

### 20 December, 2021 to 31 December,2021
(For B.Sc.II)

Prof. A. A. Pawar
Co-ordinator

Prof. V. V. Pawar
HOD

Department of Statistics
Vivekanand College Kolhapur

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*-शिक्षण महर्षी डॉ. बपुजी साळुंखे*

# VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR
# REMEDIAL COACHING

## Goals & Objectives

1) Finding out the strengths and weaknesses of the average students.

2) To increase the academic ability of average students as compared to normal students.

3) To help increase the prior knowledge of the average students.

4) To add to the knowledge of dynamic students with changing times.

5) To provide facilities for academic improvement of average students.

Prof. V. V. Pawar
Department of Statistics
Vivekanand College, Kolhapur

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# VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR
## Department of Statistics
## REMEDIAL COACHING

## NOTICE

**Date: 17/12/2021**

All the students of B.Sc.II (Statistics) are hereby informed that, lectures of "Remedial Coaching" will be conducted from 20/12/2021 to 31/12/2021. Those students should be present for lectures.

Place             : Department of Statistics , Room No. 38
Time              : 11.30 am to 12.30 pm
Contact Details : Prof. V. V. Pawar (HOD) (9823717300)
                   Prof. A. A. Pawar (9975631875)

**Prof. V. V. Pawar**
Department of Statistics
Vivekanand College Kolhapur

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*-शिक्षण महर्षी डॉ. बपुजी साळुंखे*
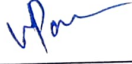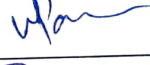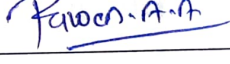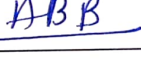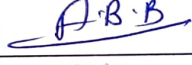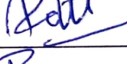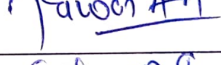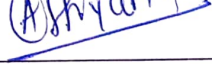
# VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR
## Department of Statistics
## REMEDIAL COACHING

## TIMETABLE

Date: 20/12/2021 to 31/12/2021 (Ten Days)
Time: 11.30 am to 12.30 pm

| Sr. No. | Date | Name of Teacher | Sign |
|---------|------|-----------------|------|
| 1. | 20/12/2021 | Prof. V. V. Pawar | |
| 2. | 21/12/2021 | Prof. V. V. Pawar | |
| 3. | 22/12/2021 | Prof. A. A. Pawar | |
| 4. | 23/12/2021 | Prof. M. B. Lohar | |
| 5. | 24/12/2021 | Prof. A. B. Bhosale | |
| 6. | 27/12/2021 | Prof. A. B. Bhosale | |
| 7. | 28/12/2021 | Prof. A. M. Makandar | |
| 8. | 29/12/2021 | Prof. P. C. Patil | |
| 9. | 30/12/2021 | Prof. A. A. Pawar | |
| 10. | 31/12/2021 | Prof. A. M. Makandar | |

Prof. V. V. Pawar
Department of Statistics
Vivekanand College, Kolhapur

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-शिक्षण महर्षी डॉ. बपुजी साळुंखे
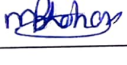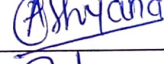
# VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR
## Department of Statistics
## REMEDIAL COACHING

## SYLLABUS & TIMETABLE

| Sr. No. | Unit No. | Name of Unit | No. of Hours |
|---------|----------|--------------|--------------|
| 1. | Unit 1 | Measures of Central Tendency | 2 |
| 2. | Unit 2 | Correlation | 1 |
| 3. | Unit 3 | Regression | 2 |
| 4. | Unit 4 | Probability | 1 |
| 5. | Unit 5 | Mathematical Expectation | 1 |
| 6. | Unit 6 | Some Standard Discrete Probability Distributions | 3 |

Prof. V. V. Pawar
HOD
Department of Statistics
Vivekanand College Kolhapur

Vinayak Rajaram Teli

25/50

1. If correlation between X and Y is 0.7, then correlation between (4X+3) and (3y-4) is ……..
   a)0.7       b)-0.7       c)0       d) None of these

2. The both regression coefficient has
   a) Same algebraic sign always       b) Same algebraic sign never
   c)Same algebraic sign sometimes       d) all of these

3. The correlation coefficient is the ………. between the regression coefficients
   a) A.M.       b) Median       c) Mode       d)Geometric Mean

4. The additive model in Time Series is ………….
   a) Y = T+S+C+I       b) Y= T+S+I       c) Y= S+C+I       d) Y= T+S+C

5. A set of values with mean 20 and its coefficient of variation is 15% then variance of the series is____.
   a)30       b) 3       c) 9       d)300

6. If $r_{12} = r_{13} = 0$ then $R_{1.23}=$
   a) 1       b)0       c) Unpredictable       d) None of these

7. The variation in values of times series due to traditions and festivals is known as
   a) Seasonal variation       b) Cyclical variation
   b) Random variation       d) None of these

8. If $r_{13} = r_{23} = 0$ then $r_{12.3}=$
   a) $r_{12}$       b) Zero       c)1       d)none of these

9. Which of the following true for |R|=
   a) $1 - r^2_{12} - r^2_{13} - r^2_{23} + 2r_{12}r_{13}r_{23}$       b)$1 - r^2_{12} + r^2_{13} - r^2_{23} +$
   $2r_{12}r_{13}r_{23}$
   b) $1 + r^2_{12} - r^2_{13} - r^2_{23} + 2r_{12}r_{13}r_{23}$       d)$1 - r^2_{12} - r^2_{13} - r^2_{23} -$
   $2r_{12}r_{13}r_{23}$

10. If cov(x,y)=-6, V9x) =4,v(y)=9 then r = …………
    a) -1       b)1       c)-1 to +1       d) None of these

11. The order of residual $X_{1\,23}$ is ……………………….
    a) 1       b)2       c)3       d) None of these

12. Rank correlation coefficient is equal to 1 if …………………….
    a) $\sum di^2 = 1$       b)$\sum di^2 = 0$       c)$\sum di^2 > 0$       d)$\sum di^2 < 0$

13. If X and Y are two random variables with means E(X) and E(Y)resp. then the expressions E[(X-E(X)) (Y-E(Y))] is called ……….
    a) variance of X       b) Variance of Y
    c)covariance between X and Y       d) correlation coefficient between X and Y

14. Let (X, Y) be a bivariate discrete r. v. with joint p. m. f.

| (x,y) | (0,0) | (1,0) | (0,1) | (1,1) |
|-------|-------|-------|-------|-------|
| P(x,y) | ½ | 1/4 | 5/12 | 1/4 |

The mean of Y is ……..
a) 1/3       b)1       c)5/12       d)2/3

15. The correlation coefficient between X and Y is zero. We then conclude that……
    a) X and Y have some distribution.
    b) The variance of X and Y are equal.
    c) There exists no relationship between X and Y
    d) d)There exists no linear relationship between X and Y

16. If X has one point distribution with P (X =k) =1 and P(X≠k) =0, then variance of X is ……...
    a) k       b)1       c)0       d) None of these

17. Deciles divide the data into_____ equal parts.
    a)9       b) 4       c) 10       d) 100

18. If X→b(n,1/4), then the probability distribution of Y=n-X is…….
    a) b(n,1/4)       b) b(4n,1)       c) b(n,3/4)       d) b(2n,1/4)

19. Mode of the binomial distribution is-----
    a) not unique       b) unique       c) np       d)npq

20. A random variable X→H (N, M,n) when N→ ∞and $\frac{M}{N}$ = p, the distribution of X is….
    a) (n,q)       b) (m,p)       c)(m,q)       d)b(n,p)

21. If a random variable X→H (10,6,3) then the mean of X is….
    a) 10       b) 1.8       c) 6       d)2

22. The recurrence between the probabilities of Poisson(m) is $\frac{P(X=x+1)}{P(X=x)}$ = ………
    a) m/(x+2)       b)m/x       c)x/(m+1)       d)m/(x+1)

23. The second central moment of Poisson distribution with mean m is----
    a) m       b)2m       c) $m^2$       d) m/2

24. Geometric distribution is a particular case of ……...
    a) Binomial Distribution       b) Poisson Distribution
    b) Negative binomial Distribution       d) Hypergeometric Distribution

25. If X→NB (k, p) then ….
    a) mean<variance       b) mean>variance
    b) mean=variance       d) mean≤ Geometric Distribution

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# VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR
## Department of Statistics
## REMEDIAL COACHING

## Students List

| Sr. No. | Name of Student | Percentage | Sign |
|---------|-----------------|------------|------|
| 1. | Dhanashri Popat Chavan | 44 | Chavan |
| 2. | Pooja Sampat Patil | 36 | Pspatil |
| 3. | Varsha Yashwant Panhalakar | 28 | VSP |
| 4. | Vaishnavi Vishwas Jadhav | 48 | V.V.Jadhav |
| 5. | Vinayak Rajaram Teli | 48 | Vinud |
| 6. | Sourabh Sanjay Vadar | 36 | SS |
| 7. | Harshad Kiran Patil | 32 | Patilk. |
| 8. | Rajkumar Baban Karpe | 30 | Sub |
| 9. | Kedar Krushnat Powar | 48 | Rap |

Prof. V. V. Pawar
HOD
Department of Statistics
Vivekanand College, Kolhapur

# Vivekanand College Kolhapur(Autonomous)
## Remedial Coaching
## Attendance Sheet

**STATISTICS** B.Sc. II

2021-2022

| Sr No | Name | 20/12/21 | 21/12/21 | 22/12/21 | 23/12/21 | 24/12/21 |
|---|---|---|---|---|---|---|
| 1 | Dhanshri Popat chavan. | chavan | chavan | chavan | chavan | chavan |
| 2 | Pooja Sampat Patil. | पाटील | पाटील | पाटील | पाटील | पाटील |
| 3 | Varsha Yashavant Panhalkar | sign | sign | sign | sign | sign |
| 4 | Vaishnavi Vishwas Jadhav | sign | sign | sign | sign | sign |
| 5 | Vinayak Rajaram Teli | sign | sign | sign | sign | sign |
| 6 | Sourabh Sanjay vadar | sign | sign | sign | sign | sign |
| 7 | Harshad kiran Patil | Patil | Patil | Patil | Patil | Patil |
| 8 | Rajkumar Baban Karape | sign | sign | sign | sign | sign |
| 9 | Kedar Krushnat powar | KP | KP | KP | KP | KP |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| 16 | | | | | | |

# Vivekanand College Kolhapur(Autonomous)
## Remedial Coaching
## Attendance Sheet

**STATISTICS**                                 **2021-2022**

| Sr No | Name | 27/12/21 | 28/12/21 | 29/12/21 | 30/12/21 | 31/12/21 |
|---|---|---|---|---|---|---|
| 1 | Dhanshri Popat chavan. | Chavan | Chavan | Chavan | Chavan | Chavan |
| 2 | Pooja Sampat Patil. | Patil | Patil | Patil | Patil | Patil |
| 3 | Varsha Yashavant Panhalkar | Vep. | Vep. | Vep. | Vep. | Vep. |
| 4 | vaishnavi VishWas Jadhav | Jadhav | Jadhav | Jadhav | Jadhav | Jadhav |
| 5 | Vinayak Rajaram Teli | Teli | Teli | Teli | Teli | Teli |
| 6 | | | | | | |
| 7 | Harshad kiran Patil | Patil | Patil | Patil | Patil | Patil |
| 8 | Rajkumar Baban karape | kub | kub | kub | kub | kub |
| 9 | Kedar krushnat powar | BP | BP | powar | powar | powar |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |

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# VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR
## Department of Statistics
## REMEDIAL COACHING

## NOTICE

**Date: 01/01/2022**

All the students of B.Sc.II are hereby informed that, lectures of "Remedial Coaching" were conducted from 20/12/2021 to 31/12/2021. Those students who are participated their exam will be conducted on 04/01/2022 at 11.30 am to 12.00 pm.

Place        : Department of Statistics, Room No. 38

Time         : 11.30 am to 12.00 pm

Prof. V.V.Pawar
**HOD**
Department of Statistics
Vivekanand College Kolhapur

# VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR
## Department of Statistics
## REMEDIAL COACHING

## Marklist

**Date:** 5/01/2022

| Sr. No. | Name of Student | Marks |
|---------|-----------------|-------|
| 1. | Dhanashri Popat Chavan | 36 |
| 2. | Pooja Sampat Patil | 34 |
| 3. | Varsha Yashwant Panhalakar | 32 |
| 4. | Vaishnavi Vishwas Jadhav | 36 |
| 5. | Vinayak Rajaram Teli | 40 |
| 6. | Sourabh Sanjay Vadar | 36 |
| 7. | Harshad Kiran Patil | 34 |
| 8. | Rajkumar Baban Karpe | 32 |
| 9. | Kedar Krushnat Powar | 40 |

Prof. V. V. Pawar
Department of Statistics
HOD
Vivekanand College Kolhapur

Name Dhanashri Popat Chavan

Vivekanand college, Kolhapur (Autonomous)
Department of Statistics.
Diagnostic Test for Statistics 2021-22
Class: B.Sc. II

1) If P(A)=0.3, P(B)= 0.78, P(A∩B) =0.16 then P(A|B) =.........

   A) 0.21   B) 0.79   C) 0.53   D) 0.63

2) An important property of distribution function F (x), such as it is ...
   A) An increasing function   B) A decreasing function
   C) A monotonically decreasing function   D) A non – decreasing function

3) If X is a discrete r.v. with mean E(X) then E $[X- E(X)]^2$ is called ..............
   A) Mean   B) Variance   C) Standard Deviation   D) Second raw moment

4) If X has p.m.f. P (x) $=\frac{1}{k+1}$, x = 0, 1, 2... k and the mean of the distribution is 6. Then the value of k is ...
   A) 6   B) 18   C) 36   D) 12

5) A r.v. X follows discrete uniform distribution assuming the values -3, -2, -1, 0, 1, 2, 3 then mean and variance of X are ...
   A) 4 and 6   B) 0.25 and 4   C) 0 and 4   D) 7 and 4

6) When population is finite and sampling is done without replacement so that the events are statistically dependent although random then the distribution under consideration is ...
   A) Bernoulli   B) Hyper geometric
   C) Binomial   D) Discrete uniform

7) Let Ω = {HH, HT, TH, TT} and A and B are two events defined on sample space Ω .......
then which of the following events shows partition of sample space Ω.......
   A) A = {HH, TT}, B = {HT, TH}   B) A= {HH}, B= {HT, TH, TT}
   B) A= {HH, HT}, B= {TH, TT}   D) All the above

8) The three regression plane coincide if ......, where |R| is the determinant of simple correlation coefficients.
   A) |R| = 0   B) |R| = 1   C) |R| > 0   D) |R| > 1

9) In a trivariate population, if $r_{12}$ = 0.75, $r_{13}$= 0.6 and $r_{23}$ = 0.5 then the value of $R^2_{1\,23}$ is...........
   A) 0.73   B) 0.53   C) 0.63   D) 0.83

10) For the following distribution:

| X | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| P (x) | 0.1 | 0.2 | 0.3 | 0.25 | 0.15 |

The value of median is ...
   A) 2   B) 3   C) 4   D) Not exists

11) The component of time series attached to a long term variation is terms are ...
   A) Cyclical variations   B) Seasonal variations
   C) Secular trend   D) Irregular variations

12) The mean, median and mode of the distribution is 23,25 and 27 respectively then the distribution is_____.
   A) Positively Skewed   B) Symmetric
   C) Negatively Skewed   D) Normal

12) Which of the following is not absolute measure of dispersion?
   A) Standard deviation   B) Variance
   C) Coefficient of Variance   D) Mean deviation

13) If the third ordered central moment ($\mu_3$) is negative then the distribution is_____.
   A) Symmetric   B) Skewed Negatively
   C) Skewed Positively   D) Platykurtic

14) If X follows Bernoulli distribution with parameter p and P (X = 0) = 2P (X = 1) then value of q is equal to ...
   A) $\frac{1}{3}$   B) $\frac{2}{3}$   C) $\frac{1}{2}$   D) $\frac{1}{4}$

15) If X & Y are independent random variable then ....
   A) Cov. (X, Y) =0   B) Corr(X, Y)=0
   C) E(XY)=E(X). E(Y)   D) All of them

16) If X has Poisson distribution with E(X) = 3 then V(2x+3) is...
   A) 12   B) 3   C) 6   D) 0

17) Let X has geometric distribution with parameter 0.2 then its mean is ....
   A) $\frac{1}{4}$   B) $\frac{1}{2}$   C) $\frac{3}{4}$   D) 4

18) If X follows NBD (k, p) then variance of X is...........
   A) $\frac{q}{p^2}$   B) $\frac{kq}{p}$   C) $\frac{kp}{q^2}$   D) $\frac{kq}{p^2}$

19) If $f(x,y) = e^{-(x+y)}$ , x,y≥ 0 then marginal distribution of X is..........
   A) $e^x$   B) $e^y$   C) $e^{-x}$   D) $e^{-y}$

20) In time series Analysis, when the change is by constant rate then model used is _____.
   A) Additive   B) Multiplicative   C) Mixed   D) Exponential.

21) If correlation between x and y is -0.3, then correlation between y and x is
   A) 0.3   B) -0.3   C) Zero   D) None of these

22) _____ is used for finding value of mode graphically.
   A) Simple Bar diagram   B) Histogram
   C) Ogive Curves   D) None of these

23) If C.V.(A) > C.V.(B) then which of the following is false statement?
   A) A is less consistent than B.   B) B is more consistent than A.
   B) A is more consistent than B.   D) All the above

24) The value of Cov (ax + b, cy +d) is equal to ____.
   A) ac cov (x,y)   B) bd cov (x,y)   C) ac cov (x,y) – bd   D) 2ac cov (x,y)

25) Which of the statements is/are true/false?
   I: Regression coefficient always lies between 0 to ∞.
   II: Correlation coefficient always lies between 0 to 1.
   A) Only I is true   B) Only II is true   C) Both are true   D) Both are false.

# VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR

## Department of Statistics

## REMEDIAL COACHING

### Progress Report

**Date:**

| Sr. No. | Name of Student | Previous Marks | Remedial Class Marks | Progress |
|---------|-----------------|----------------|----------------------|----------|
| 1. | Dhanashri Popat Chavan | 44% | 72% | 48.28% |
| 2. | Pooja Sampat Patil | 36% | 68% | 61.54% |
| 3. | Varsha Yashwant Panhalakar | 28% | 64% | 78.26% |
| 4. | Vaishnavi Vishwas Jadhav | 48% | 72% | 40.00% |
| 5. | Vinayak Rajaram Teli | 48% | 80% | 50.00% |
| 6. | Sourabh Sanjay Vadar | 36% | 72% | 66.67% |
| 7. | Harshad Kiran Patil | 32% | 68% | 72.00% |
| 8. | Rajkumar Baban Karpe | 30% | 64% | 72.34% |
| 9. | Kedar Krushnat Powar | 48% | 80% | 50.00% |

Prof. V. V. Pawar
HOD
Vivekanand College Kolhapur

"Education for Knowledge, Science and Culture"
-Shikshanmaharshi Dr. Bapuji Salunkhe

## VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)
### INTERNAL QUALITY ASSURANCE CELL
2021-22

## Report on Remedial Coaching

**Aim** –To make every student excellent in their academic performance.

Objectives – To improve skills and abilities in each student.

1. **Day and Date** – 20/12/2021 to 31/12/2021 (For B.Sc. II)

2. **Venue**- Room No. 38

3. **Resource people** –Faculty members

4. **Number of beneficiaries** – 09 (04 Girls+05 Boys)

5. **Brief Description**:

For the remedial coaching we conducted a diagnostic test for B.Sc. II students on 23rd December 2021. Depending on their scores, those who have scored less than 40% marks, were considered as slow learners. For the slow learners, we conducted extra coaching from 20/12/2021 to 31/12/2021 to improve their knowledge on the topics in which they were poor and to improve their problem-solving skill we gave them assignments.

6. **Output-**

Students improved their knowledge and were able to solve problems.
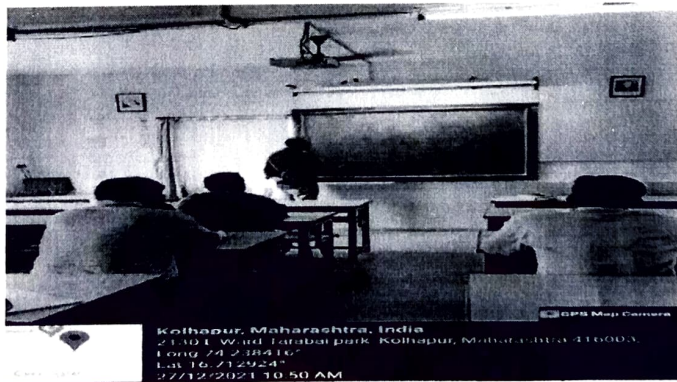


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