(10)

"ज्ञान विज्ञान आणि सुसंस्कार यासाठी शिक्षण प्रसार"
-शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Vivekanand College, Kolhapur
Department of Statistics
Notice
Internal Examination

Date: 27/01/2021

All students of B.Sc. – I, II and III are hereby informed that, there will be first term **internal evaluation examination** through online mode is scheduled as per following table:

Sr. No.	Class	Paper	Paper No.	Topic		Date	Time
1	B. Sc. I	I	I	Section I	Unit 1. Introduction to Statistics and Measure of Central Tendency	09/02/2021	12.00 noon to 12.30 pm
				Section II	Unit 1. Sample space and Events Unit 2. Probability		
2	B. Sc. II	III	III	Section I	Unit 1. Continuous Univariate Distributions Unit 2. Continuous Bivariate Distributions	05/02/2021	12.00 noon to 12.30 pm
				Section II	Unit 1. Index Number		
3	B.Sc. III	V	V	Section I	Unit 1. Univariate Continuous probability distributions	09/02/2021	12.00 noon to 12.30 pm
				Section II	Unit 1. Order Statistics		
		VI	VI	Section I	Unit 1. Basic terminology and SRS Unit 2. Stratified Sampling	10/02/2021	12.00 noon to 12.30 pm
				Section II	Unit 1. Linear Programming Unit 2. Decision Theory		

Note: All students should follow the following procedure:

1. The question paper will be in Google form.
2. The nature of the question paper will be Multiple Choice Questions (MCQ).
3. The link of question paper will be share in corresponding Whatsapp group / Google Form before fifteen minutes of scheduled time.
4. Question paper will be 20 marks.
5. Each question carries one mark.

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VIVEKANAND COLLEGE ESTD JUNE 1964 KOLHAPUR - 416003

Ms. V. V. Pawar
(Associate Professor)
Head
Department of Statistics
Vivekanand College Kolhapur

Vivekanand College,Kolhapur(Autonomous) Dept. of Statistics, Internal Examination

B.Sc.-I Sem-I Paper-I Descriptive Statistics-I & Elementary Probability Theory
Date 09/2/2021 Time 11.30am-12.30pm

1. Email *

2. Name of Student

3. Roll Number

4. Division

5. Group

6. 1)Probability that a leap year, selected at random will contain 53 Sundays is.....

Mark only one oval.

- a) 1
- b) 1/7
- c) 2/7
- d) 0

7. 2) The event which consists of the whole sample space is ..... Event.
   a) Impossible

Mark only one oval.

- a) Impossible
- b) Certain
- c) Mutually exclusive
- d) Exhaustive

8. 3) If two events A and B are mutually exclusive and exhaustive, then they are called.....events.

Mark only one oval.

- a) Impossible
- b) Certain
- c) Complementary
- d) None of these

9. 4) If A⊆ B, then P(Ac∩ B)=.....

Mark only one oval.

- a) P(A)
- b) P(B)
- c) P(B)-P(A)
- d) P(A)-P(B)

10. 5) If A and B are any two events defined on a sample space, then probability of only one event A occurs is given by.....

Mark only one oval.

- a) P(A)
- b) P(B)
- c) P(A)-P(A∩B)
- d) P(B)-P(A∩B)

11. 6) In an experiment of tossing of 3 coins simultaneously, probability of getting at most 1 tail is.....

Mark only one oval.

- a) 1/2
- b) 1/8
- c) 3/8
- d) 7/8

12. 7) The Probability of certain Event is

Mark only one oval.

- a) 0
- b) 1
- c) o<x<1
- d) All the Above

13. 8) Which one of the following is false?

Mark only one oval.

- a) P(Ac)=1-P(A)
- b) If A⊆ B, then P(A) < P(B)
- c) 0< P(A)<1
- d) If A⊆ B, then P(A)< P(A∩B)

14. 9) In tossing two coins at a time, the probability of getting at least one head is……..

Mark only one oval.

- a) 3/4
- b) 1/4
- c) 1/2
- d) 1

15. 10) One card is drawn at random from a pack of 52 cards, the probability that it is King or Queen is……..

Mark only one oval.

- a) 2/52
- b) 2/13
- c) 1/13
- d) 4/52

16. 11) A survey by using complete enumeration method is known as …..

Mark only one oval.

- a) pilot survey
- b) census survey
- c) sample survey
- d) none of these

17. 12) Which one of the scale is the best scale in measurement of data?

Mark only one oval.

- a) nominal scale
- b) ordinal scale
- c) interval scale
- d) ratio scale

18. 13) In …..sampling method the same element may be selected more than once .

Mark only one oval.

- a) simple random sampling with replacement
- b) simple random sampling without replacement
- c) stratified
- d) systematic

19. 14) Sum of square of deviation from mean is.....

Mark only one oval.

- a) maximum
- b) minimum
- c) one
- d) zero

20. 15) What is true about primary data?

Mark only one oval.

- a) reliable
- b) more costly
- c) time consuming
- d) all of these

21. 16)The A.M. of 7 numbers 7,9,12,x,5,4,11 is 9 then value of x is .....

Mark only one oval.

- a)1.34
- b) 14
- c) 15
- d)8

22. 17)Attributes are measured using.....

Mark only one oval.

- a) nominal scale
- b) ordinal scale
- c) both a) and b) scale
- d) either a) or b)

23. 18) The class intervals of the grouped data: 5-9 10-14 15-19 20-24

Mark only one oval.

- a) inclusive class
- b) discrete class
- c) exclusive class
- d) noe of these

24. 19) sampling is:

Mark only one oval.

- a) not always possible
- b) not always useful
- c) has number of advantages over census
- d) the census

25. 20) Which of the following is not requisite of good averages...

Mark only one oval.

- a) It should be simple to understand
- b) It should be rigidly defined
- c) It should possess sampling stability.
- d) It should not be capable of further mathematical treatment.

12. 7) The Probability of certain Event is

Mark only one oval.

- a) 0
- b) 1
- c) o<x<1
- d) All the Above

13. 8) Which one of the following is false?

Mark only one oval.

- a) P(Ac)=1-P(A)
- b) If A⊆ B, then P(A) < P(B)
- c) 0< P(A)<1
- d) If A⊆ B, then P(A)< P(A∩B)

14. 9) In tossing two coins at a time, the probability of getting at least one head is.....

Mark only one oval.

- a) 3/4
- b) 1/4
- c) 1/2
- d) 1

11/27/23, 11:51 AM Vivekanand College,Kolhapur(Autonomous) Dept. of Statistics, Internal Examination

15. 10) One card is drawn at random from a pack of 52 cards, the probability that it is King or Queen is.....

Mark only one oval.

- a) 2/52
- b) 2/13
- c) 1/13
- d) 4/52

16. 11) A survey by using complete enumeration method is known as .....

Mark only one oval.

- a) pilot survey
- b) census survey
- c) sample survey
- d) none of these

17. 12) Which one of the scale is the best scale in measurement of data?

Mark only one oval.

- a) nominal scale
- b) ordinal scale
- c) interval scale
- d) ratio scale

18. 13) In .....sampling method the same element may be selected more than once .

Mark only one oval.

- a) simple random sampling with replacement
- b) simple random sampling without replacement
- c) stratified
- d) systematic

Vivekanand College ,Kolhapur (Autonomous) Internal Examination 2020-21 B.Sc. -II Semester III

Subject : Continuous Probability Distributions I

Date: 5/06/2021 Time : 9.00 am to 10.00 am

Instructions: Each question carry one mark.

* Indicates required question

1. Email *

2. Geometric distribution is a particular case of-------- 1 point

Mark only one oval.

- ◯ Binomial Distribution
- ◯ Poisson Distribution
- ◯ Discrete uniform Distribution
- ◯ Negative binomial Distribution

3. If X1, X2.... Xn are i.i.d. geometric r.v. then ∑Xi follows... 1 point

Mark only one oval.

- ◯ geometric distribution
- ◯ B(n,p)
- ◯ NB(n,p)
- ◯ NB(k,p)

4. A committee of 5 persons is to be formed from a group of 10ladies and 20 men using simple random sampling without replacement (SRSWOR). Then number of ladies on the committee will follow..... 1 point

Mark only one oval.

- ◯ Poisson distribution
- ◯ Hypergeometric distribution
- ◯ Binomial distribution
- ◯ discrete uniform distribution.

5. Mode of the binomial distribution is----- 1 point

Mark only one oval.

- ◯ not unique
- ◯ unique
- ◯ np
- ◯ npq

6. If X has one point distribution with P(X =k)=1 and P(X≠k)=0, then variance of X is ..... 1 point

Mark only one oval.

- ◯ k
- ◯ 1
- ◯ 0
- ◯ None of these

7. The uniform distribution is---- 1 point

Mark only one oval.

- positively skewed
- negatively skewed
- symmetric
- non-symmetric

8. If X→b(n,p) and E(X)=5/3, var(X)=10/9. Then the value of q is..... 1 point

Mark only one oval.

- 1/3
- 2/3
- 1/6
- 5/6

9. If X→b(n,1/4), then the probability distribution of Y=n-X is..... 1 point

Mark only one oval.

- b(n,1/4)
- b(4n,1)
- b(n,3/4)
- b(2n,1/4)

10. The second central moment of Poisson distribution with mean m is---- 1 point

Mark only one oval.

- m
- 2m
- m^2
- m/2

11. Which of the following distribution has mean≤variance? * 1 point

Mark only one oval.

- Binomial Distribution
- Poisson Distribution
- Negative binomial Distribution
- Hypergeometric Distribution

Shri Swami Vivekanand Shikshan Sanstha's, Vivekanand College, Kolhapur(Autonomous), Department of Statistics

B.Sc. III Subject: Sampling Theory and Operations Research
Date: 10/02/2021 Time: 12:00 noon to 12:30 pm

1. Email *

_____

2. Name of Student

_____

3. Roll Number

_____

4. 1)The difference between estimate and the population parameter is .....Untitled Question

Mark only one oval.

- ◯ a) human error
- ◯ b) standard error
- ◯ c) non sampling error
- ◯ d) sampling error

5. 2) In SRSWOR (N, n), what is the frequency with which an element can be included in the sample?

Mark only one oval.

- ◯ a) 0 or 1
- ◯ b) >1
- ◯ c) 1
- ◯ d) ≥ 1
- ◯ Option 1

6. 3) In SRSWOR (N, n) which of the following is the probability that any two specified units are selected in the sample?

Mark only one oval.

- ◯ a) (n(n-1))/(N(N-1))
- ◯ b) (n(n-1))/(N(N+1))
- ◯ c) (n(n+1))/(N(N-1))
- ◯ d) (n(n+1))/(N(N+1))

7. 4)Which of the following is the minimum sample size required in SRSWOR under large population with population variance S2, confidence coefficient 1-α and margin of error d ?

Mark only one oval.

- ◯ a) (Z_(α/2)^2 S^2)/d^2
- ◯ b) (Z_(α/2)^2)/(S^2 d^2)
- ◯ c) (Z_(α/2)^2 S^2)/(2d^2)
- ◯ d) none of these

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8. 5)In case of sampling for attributes variance of estimate of population proportion under SRSWOR is....

Mark only one oval.

- a) (N-n)/(N-1)*PQ/n
- b) (N-1)/(N-n)*PQ/n
- c)(N-n)/(N-1)*PQ/N
- d) PQ/n

9. 6)What is optimum sample size for ith strata in Neyman optimum allocation with equal sampling per unit cost in each stratum?

Mark only one oval.

- a) ni=(nNiSi)/N
- b) ni=(nNiSi)/(∑NiSi)
- c) ni=(nN)/Ni
- d) ni=(n∑NiSi)/N

10. 7)In stratified random sampling with stratum sizes N_1=800,N_2=300 and stratum variability S_1 = 144, S_2= 400 respectively, then under Neyman allocation, the ratio of sample sizes n1/n2 is given by ----

Mark only one oval.

- a) 1.60
- b) 0.96
- c) 2.67
- d) 1

11. 8)In which case the gain in precision of stratified sampling with proportional allocation over un-stratified simple random sampling is greater?

Mark only one oval.

- a) Stratum means are widely spread
- b) Stratum means are closely assembled
- c) If no variation in stratum means
- d) No pattern among stratum means

12. 9)Which of the following is the expression for $Var(\bar{y}_{st})$ under proportional allocation?

Mark only one oval.

- a) $(1/n-1/N) \sum [W_i S_i^2]$
- b) $\sum [(1/n_i -1/N_i) W_i S_i^2]$
- c) $\sum [(1/n_i -1/N_i) W_i S_i]$
- d) $\sum [(1/n-1/N) W_i^2 S_i^2]$

13. 10)Under optimum allocation for a fixed cost, under which of the following situations, a large sample would be required from a specific stratum?

Mark only one oval.

- a) If sampling cost per unit is low in that stratum
- b) If the stratum size is large
- c) If stratum the variability (Si) is large
- d) All of these

21. 18)The Expected value under perfect information (EVPI) is equal to.....

Mark only one oval.

- a)Minimum of(EOL)
- b)Maximum of (EMV)
- c)EPPI
- d)None of these

22. 19) . In a linear programming problem, a basic solution is said to be non-degenerate basic feasible solution if ... basic variables are zero.

Mark only one oval.

- a)All
- b)Some
- c)One
- d)at least one

23. 20) A type of decision making environment is

Mark only one oval.

- a) certainty
- b) uncertainty
- c) risk
- d) all of these

Vivekanand College, Kolhapur (Autonomous)
Department of Statistics
Internal Examination (2020-21)
Notice

Date: 15/07/2021

All the students of B.Sc. – I, II & III are hereby informed that, there will be second term internal evaluation examination through online mode is scheduled as following time table:

Sr. No.	Class	SEM	Paper No	Topic		Date	Time
1	B. Sc. I	II	II	Section I	Unit I:Correlation Unit II Regression	22 July 2021	11.00 am to 12.00 Noon
				Section II	Unit I Some Standard Discrete Probability Distributions-I		
2	B. Sc. II	IV	IV	Section I	Probability Distributions II	22 July 2021	11.00 am to 12.00 Noon
				Section II	Statistical Methods-II		
3	B. Sc. III	VI	VII	Section I	Statistical Inference – I	18 July 2021	11.00 am to 12.00 Noon
				Section II	Statistical Inference – II		
			VIII	Section I	Design of Experiments	20 July 2021	11.00 am to 12.00 Noon
				Section II	Quality Management and Data Mining		

(Ms. V. V. Pawar)
HEAD
DEPARTMENT OF STATISTICS
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

VIVEKANAND COLLEGE ESTD JUNE 1964 KOLHAPUR - 416003

14. 11) If the primal has unbounded solution then the dual has.....

Mark only one oval.

- a) no solution
- b) unbounded solution
- c) optimal solution with finite objective function
- d) can't say anything

15. 12)In the simplex table the vector Ar enters the basis if the ratio XBi/air is....

Mark only one oval.

- a) Minimum
- b) Maximum
- c) Not restricted
- d) None of these

16. 13)In the optimal simplex table, if Zj-Cj=0 for any non-basic variable, then given LPP has .....

Mark only one oval.

- a) Unbounded solution
- b) Cycling
- c) Alternative solution
- d) Infeasible solution

17. 14)In canonical form of LPP.....

Mark only one oval.

- a)Objective function is of maximization type
- b)All variables xi's are non-negative.
- c)All constraints are of ≤ type.
- d)All of these

18. 15) In decision theory various staes of nature are assumed to be.....

Mark only one oval.

- a) equally likely
- b) mutually exclusive
- c) exhaustive
- d)Both ii) and iii)

19. 16)In a decision problem under risk the probability distribution of the profit for different strategies against different alternatives.....

Mark only one oval.

- a) Is known
- b) Is unknown
- c) May be unknown
- d) None of these

20. 17)Which criterion is used for decision making under uncertainty?

Mark only one oval.

- a)Pessimistic
- b)Optimistic
- c)Both i) and ii)
- d)EMV

Internal Examination Vivekananda's College, Kolhapur(Autonomous)B.Sc.-I (SEM-II)Paper: Descriptive Statistics-II and Discrete Probability Distribution

Date 22/07/2021 Time 11.00 am-12.00 noon

* Indicates required question

1. Email *

_____

2. Name Of student *

_____

3. Roll Number *

_____

4. 1

If correlation between X and Y is 0.7 than correlation between (4X+3)And (3y-4) is .....

a) 0.7
b) -0.7
c) 0
d) None of these

Mark only one oval.

- ◯ A
- ◯ B
- ◯ C
- ◯ D

5. 2

The both regression coefficient have

a) a)Same algebraic sign always
b) Same algebraic sign never
c) c)Same algebraic sign some times
d) all of these

Mark only one oval.

- ◯ A
- ◯ B
- ◯ C
- ◯ D

6. 3

The correlation coefficient is the .....between the regression coefficients

a) A.M.
b) Median
c) Mode
d) Geometric Mean

Mark only one oval.

- A
- B
- C
- D

7. 4

The correlation coefficient lies between.....

a) 0 to 1
b) -1 to +1
c) -1 to 0
d) None of these

Mark only one oval.

- A
- B
- C
- D

11/27/23, 11:41 AM Internal Examination Vivekananda's College, Kolhapur(Autonomous)B.Sc.-I (SEM-II)Paper: Descriptive Statistics-II and Dis...

8. 5

If cov(x,y)=-6, V(x) =4,v(y)=9 then r = ...

a) -1
b) 1
c) -1 to +1
d) None of these

Mark only one oval.

- A
- B
- C
- D

9. 6

Rank correlation coefficient is equal to 1 if .....

a) $\sum di^2 = 1$
b) $\sum di^2 = 0$
c) $\sum di^2 > 0$
d) $\sum di^2 < 0$

Mark only one oval.

- A
- B
- C
- D

10. 7

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) There exists no linear relationship between X and Y

Mark only one oval.

- A
- B
- C
- D

11. 8

If the data set on (X,Y) is (1,6),(2,7),(3,8), then correlation (X,Y) is

a) 0
b) 1
c) -1
d)-1/2

Mark only one oval.

- A
- B
- C
- D

11/27/23, 11:41 AM Internal Examination Vivekananda's College, Kolhapur(Autonomous)B.Sc.-I (SEM-II)Paper: Descriptive Statistics-II and Dis...

12. 9

If X= constant, then corr(X,Y) is

a) 0
b) 1
c) -1
d) None of these

Mark only one oval.

- A
- B
- C
- D

13. 10

The corr(X,Y) =0, then regression lines will be

a) parallel to each other
b) Perpendicular to each other
c) Coincident
d) none of the above

Mark only one oval.

- A
- B
- C
- D

https://docs.google.com/forms/d/1feOSmHCOHcDtvlLNv-ilP_d_f8NRgoljidAHHjm9hyI/edit 6/11

14. 11

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

Mark only one oval.

- A
- B
- C
- D

15. 12

In case of Bernoulli distribution if p=1/2 then it can be treated as--------

a) Binomial Distribution
b) One point distribution
c) Discrete uniform Distribution
d) Hypergeometric Distribution

Mark only one oval.

- A
- B
- C
- D

16. 13

If discrete random variable X follows Uniform distribution on 1, 2, 3....n then variance of X is---

a) $(n^2-1)/2$
b) $(n^2-1)/12$
c) $(n+1)/2$
d) $(n-1)/2$

Mark only one oval.

- A
- B
- C
- D

17. 14

If r.v. X has binomial distribution with parameters n and p, then.....

a) mean<variance
b) mean>variance
c) mean=variance
d) mean ≤variance

Mark only one oval.

- A
- B
- C
- D

18. 15

If X→b(n,p) and E(X)=5/3, var(X)=10/9. Then the value of q is.....

a) 1/3
b) 2/3
c) 1/6
d) 5/6

Mark only one oval.

- A
- B
- C
- D

19. 16

Mode of the binomial distribution is-----

a) not unique b) unique c) np d) npq

Mark only one oval.

- A
- B
- C
- D

20. 17

If a random variable X→H(10,6,3) then the mean of X is....

a) 10 b) 1.8 c) 6 d) 2

Mark only one oval.

- A
- B
- C
- D

21. 18

8) Suppose {(xi,yj.pij)i=1,2....m, j=1,2....n} be abivariate probability distribution . The marginal p.m.f. of X is given by.....

a) $P_{i.}=\sum_{j=1}^{n} p_{ij}$ b) $P_{i.}=\sum_{i=1}^{m} p_{ij}$

c) $P_{i.}=\sum_{j=1}^{m} p_{ij}$ d) $P_{.j}=\sum_{j=1}^{n} p_{ij}$

Mark only one oval.

- A
- B
- C
- D

22. 19

A discrete r. v.(X,Y) is a discrete if and only if .....

a) at least one of X and Y is discrete b) X is discrete and Y is finite.

c) both X and Y are discrete d) both X and Y are finite

Mark only one oval.

- A
- B
- C
- D

23.

10)If (X,Y) is a bivariate r.v.with joint p.m f. $P(x,y)=\frac{k}{x+y}$ x=0,1;y=1,2 the value of k is.....

a) 3/7 b) 7/3 c) 1 d) 2/7

Mark only one oval.

- A
- B
- C
- D

Shri Swami Vivekanand Shikshan Sanstha's,Vivekanand College Kolhapur (Autonomous),Department of Statistics.

Internal Examination BSc II (Sem IV) Statistics Paper No. IV

(Probability Distributions and Statistical Methods II)

Day and Date Thursday 22 July 2021 Time: 11.00 am to 12.00 Noon

* Indicates required question

1. Email *

2. Name of Student *

3. Roll Number *

4. PRN Number *

Section I Probability Distributions II
(10 Marks)

5. If X follows Gamma (1,3) then mode of the distribution is..... * 1 point

Mark only one oval.

- 0.5
- 2
- 1
- 3

6. The sum of n independent exponential variates is ..... variate. * 1 point

Mark only one oval.

- Exponential
- Gamma
- Beta
- Normal

7. If X follows β2(m, n) then 1/X is ------ * 1 point

Mark only one oval.

- β2(m, n)
- β1(m, n)
- β2(n, m)
- β1(n, m)

8. If X follows β2 (2,3) then E(1/X) is ... * 1 point

Mark only one oval.

- 3
- 2/5
- 1
- 3/5

9. If X follows β1 (10,10) then value of median is... * 1 point

Mark only one oval.

- 15/10
- 10/15
- 9/10
- 1/2

10. The mean of t-distribution with 4 d.f. is..... * 1 point

Mark only one oval.

- 2
- 1/2
- 1
- None of these

11. The curve of t distribution is ..... * 1 point

Mark only one oval.

- symmetric and platykurtic
- symmetric and mesokurtic
- symmetric and leptokurtic
- None of these

12. If X follows Chi-square distribution with variance 6 then its mean is.... * 1 point

Mark only one oval.

- 4
- 12
- 2
- 3

13. In Chi- square distribution..... * 1 point

Mark only one oval.

- Mean < degree of freedom
- mean = degree of freedom
- Mean > degree of freedom
- Mean ≤ degree of freedom

14. If X follows F (n1, n2) then E(X) is... * 1 point

Mark only one oval.

- n1/(n1-2)
- n2/(n1-2)
- n2/(n2-2)
- n1/(n1+n2)

Skip to question 15

Section 2: Statistical Methods II

(10 Marks)

15. The probability of rejecting a null hypothesis is when it is false is called _____ * 1 point

Mark only one oval.

- Type I error
- Type II error
- Power of test
- Level of significance

16. A null hypothesis is a____ * 1 point

Mark only one oval.

- Hypothesis which is simple
- Hypothesis with no difference
- Hypothesis of interest
- Hypothesis that assigns values zero to the parameters.

17. Testing H0 : μ1 = μ2 against H1 : μ1 > μ2 is a ..... test. * 1 point

Mark only one oval.

- one sided left tailed
- one sided right tailed
- two tailed
- None of these

18. If Zcal and Z_α be the respectively calculated and critical values of test statistic based on large sample size then for right tailed null hypothesis H0 is rejected if and only if ... * 1 point

Mark only one oval.

- Zcal > Zα
- Zcal < Zα
- |Zcal| > Zα
- Zcal < - Z_α

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5. If X follows Gamma (1,3) then mode of the distribution is..... * 1 point

Mark only one oval.

- ◯ 0.5
- ◯ 2
- ◯ 1
- ◯ 3

6. The sum of n independent exponential variates is ..... variate. * 1 point

Mark only one oval.

- ◯ Exponential
- ◯ Gamma
- ◯ Beta
- ◯ Normal

7. If X follows β2(m, n) then 1/X is ------ * 1 point

Mark only one oval.

- ◯ β2(m, n)
- ◯ β1(m, n)
- ◯ β2(n, m)
- ◯ β1(n, m)

8. If X follows β2 (2,3) then E(1/X) is ... * 1 point

Mark only one oval.

- ◯ 3
- ◯ 2/5
- ◯ 1
- ◯ 3/5

9. If X follows β1 (10,10) then value of median is... * 1 point

Mark only one oval.

- ◯ 15/10
- ◯ 10/15
- ◯ 9/10
- ◯ 1/2

10. The mean of t-distribution with 4 d.f. is..... * 1 point

Mark only one oval.

- ◯ 2
- ◯ 1/2
- ◯ 1
- ◯ None of these

11. The curve of t distribution is ..... * 1 point

Mark only one oval.

- ◯ symmetric and platykurtic
- ◯ symmetric and mesokurtic
- ◯ symmetric and leptokurtic
- ◯ None of these

12. If X follows Chi-square distribution with variance 6 then its mean is.... * 1 point

Mark only one oval.

- ◯ 4
- ◯ 12
- ◯ 2
- ◯ 3

15. Quality is defined as ..... to do the intended job. * 1 point

Mark only one oval.

- ◯ conformance
- ◯ fitness
- ◯ required standards
- ◯ All the above

16. Which of the following is not a seven SPC tool? * 1 point

Mark only one oval.

- ◯ Histogram
- ◯ check sheet
- ◯ Design of experiment
- ◯ Pareto chart

17. Cause and Effect diagram is also known as ..... * 1 point

Mark only one oval.

- ◯ Ishikawa diagram
- ◯ Fish-bone diagram
- ◯ Fisher's diagram
- ◯ Both A and B

18. Who among the following conceived the PDCA Cycle? * 1 point

Mark only one oval.

- ◯ W. E. Deming
- ◯ W. A. Shewhart
- ◯ Both A and B
- ◯ None of these

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19. Which of the followings are dimension of quality of product? * 1 point

Mark only one oval.

- ◯ Reliability
- ◯ Durability
- ◯ serviceability
- ◯ All the above

20. Which of the following chart is not memory chart? * 1 point

Mark only one oval.

- ◯ Cusum
- ◯ Shewhart
- ◯ EWMA
- ◯ Moving average

21. Which of the following tools is used in 'analysis and improve' step of DMAIC cycle? * 1 point

Mark only one oval.

- ◯ Histogram
- ◯ cause and effect diagram
- ◯ scatter diagram
- ◯ Pareto diagram

22. Which of the following chart uses weights in its construction? * 1 point

Mark only one oval.

- ◯ Cusum
- ◯ EWMA
- ◯ Pareto
- ◯ Moving average

9. When there occurs a missing value in an experiment calculation of exact treatment sum of square is to be carried out when ..... * 1 point

Mark only one oval.

- ◯ Treatments are not significant
- ◯ Blocks are significant
- ◯ Treatments are significant
- ◯ None of these

10. The degrees of freedom for error sum of squares in RBD with 4 treatments and 5 blocks is..... * 1 point

Mark only one oval.

- ◯ 15
- ◯ 12
- ◯ 14
- ◯ 16

11. In LSD, no. of rows is equal to ..... * 1 point

Mark only one oval.

- ◯ Number of columns
- ◯ Number of treatments
- ◯ Both A and B
- ◯ None of these

12. The principle of local control is used in ..... * 1 point

Mark only one oval.

- ◯ CRD and RBD
- ◯ CRD
- ◯ RBD
- ◯ CRD and LSD

13. In 2^2 factorial experiment with 4 blocks the d.f. for error are..... * 1 point

Mark only one oval.

- ◯ 16
- ◯ 12
- ◯ 9
- ◯ None of these

14. When interaction effect is confounded in one replicate and not in other then the experiment is said .....confounding. * 1 point

Mark only one oval.

- ◯ Total
- ◯ Partial
- ◯ Complete
- ◯ Fractional

Section II : Quality Management & Data Mining

(10 Marks)

23. The concept of ..... is to reduce the defects to 3.4 ppm. * 1 point

Mark only one oval.

- ◯ Cusum
- ◯ 6 sigma
- ◯ EWMA
- ◯ Moving average

24. ..... variability is unavoidable. * 1 point

Mark only one oval.

- ◯ Chance Causes
- ◯ Assignable causes
- ◯ Both A and b
- ◯ Neither A nor B

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