

RESEARCH OFFICER,ECONOMICS AND STATISTICS

EXAM DATE:18-11-2015

1.On fitting a bivariate linear regression model to a data set( $n=10$ )it is found that the variance of the dependent variable (based upon a division of  $n$ )is 8.5 and the residual sum of squares is 17.Then the coefficient of determination( $r^2$ )of the fitted model is:

A.0.80\*

B.0.20

C.0.50

D.0.25

Ans:A

2.Which average is suitable for finding the average of proportions?

A.Arithmetic mean

B.Median

C.Mode

D.Geometric mean\*

Ans:D

3.Which of the following statements is false if multicollinearity is present?

A.There occurs several models which include different sets of explanatory variables consonant with the data

B.There can be no clear cut interpretation of regression coefficients as measures of marginal effects

C.The regression coefficients may be unstable

D.The OLS estimates of regression coefficient are no longer unbiased\*

Ans:D

4.If  $Q_1, Q_2, Q_3$  are the quartiles, then which of the following holds for a positively skewed data?

- A.  $Q_3 - Q_1 > Q_2$
- B.  $Q_1 + Q_2 > 2Q_3$
- C.  $Q_1 + Q_3 > Q_2$
- D.  $Q_1 + Q_3 > 2Q_2$  \*

Ans:D

5.The null hypothesis of Durbin-Watson test for auto correlation is:

- A. Random component of the regression model is independently and normally distributed\*
- B. Random component of the regression model is dependent and normally distributed
- C. There is one period dependence between successive values of the random component
- D. None of these

Ans:A

6.The arithmetic mean of a set of distinct number is 10.If each number is squared, then the mean of the squares of the number is:

- A. Greater than 100\*
- B. Less than 100
- C. 100
- D. Any of these

Ans:A

7.For any two events A and B,  $P(A \text{ intersection } B)$  is equal to:

Ans:  $P(A) - P(A \text{ intersection } B)$

8.If  $P(E)=0.9$  and  $P(F)=0.8$  then which of the following is true?

Ans:  $P(E \text{ intersection } F)$  Greater than equal to 0.70

9.If  $x$  is an observed value of a random variable  $X \text{ UNIF}[0,10]$ the  $x$  divides the interval  $[0,10]$ into two subintervals.What is the probability that the ratio of lengths of the shorter to longer subintervals is less than  $\frac{1}{4}$ ?

A.1/5

B.2/5\*

C.1/2

D.1/4

Ans:B

10.If the standard deviation of a normal distribution is 4 then the fourth central moment of the distribution is:

A.48

B.768\*

C.256

D.192

Ans:B

11.The value of the objective function at an optimal solution of the LPP  $\min x_1+x_2$  subject to  $x_1+x_2$  subject to  $x_1-x_2=-5, x_1$  greater than 0,  $x_2$  greater than equal to 0 will be:

A.10

B.-5

C.5\*

D.0

Ans:C

12.If a population has normal distribution with variance 225,then how large a sample must be drawn in order to be 95 per cent confident that the sample mean will not differ from the population mean by more than 2 units. $(Z_{0/2}=Z_{.025}=1.96)$

A.152

B.216\*

C.305

D.92

Ans:B

13.Of 100 people who were given a vaccine,80 developed immunity to a disease.Then a 98 per cent confidence interval on the true proportion of people developing immunity is: $(Z_{0/2}=Z_{.01}=2.33)$

A.(0.763,0.837)

B.(0.791,0.809)

C.(0.707,0.893)\*

D.None of these

Ans:C

14.Which of the following statements is true for applying usual Students' t test for testing equality of means of two independent populations?

A.The two populations are independent and normally distributed with equal unknown variances\*

B.The two populations are independent and normally distributed with known variances

C.The two populations are independent and normally distributed with unknown and unequal variances

D.The two independent populations have equal unknown variances but their distributions need not to normal

Ans:A

15.

16.If we use the statistic  $T=1/6(x_1+2X_2+3X_3)$  for estimating the parameter (Theta) of a Bernoulli population then T is:

- A.Unbiased and sufficient
- B.Unbiased and consistent
- C.Unbiased only\*
- D.Sufficient only

Ans:C

17.

18.

19.From the following price index information,what is the percentage change in prices between 2010 and 2013?

Year	2010	2011	2012	2013
Index 1	100	115	125	
Index 2			100	120

- A.50%\*
- B.35%
- C.30.4%
- D.5%

Ans:A

20.If alpha and Beta respectively denote probabilities of type-1 and type-2 errors in testing of hypotheses then which of the following statements is false?

- A.If alpha=1 then Beta=0
- B.If alpha=0 then Beta=1

C.alpha+Beta=1\*

D.If Alpha increases Beta decreases

Ans:C

21. Who played the pioneering role in the development of National income accounting?

A. Alfred Marshall

B. Simon Kuznets\*

C. Joan Robinson

D. John Nash

Ans:B

22. What is the growth rate per Capita State Domestic Product in Kerala from 2000-2001 to 2010 -2011(% per year)?

A. 6.3

B. 8.2

C. 10.1

D. 7.0\*

Ans:D

23. Who provided a detailed set of suggestions for a three-tier system of local government in India?

A. Balwantrai Mehta Committee\*

B. Bardhan and Mookherjee

C. Aiyar

D. Chattopadhyay and Duflo

Ans:A

24. Identify the components of 'Debt-Dynamic Wedge' for making a decline in Debt-GDP ratio.

- A. CPI inflation
- B. Fiscal deficit and revenue deficit
- C. Real rate of economic growth, real cost of borrowing and primary deficit\*
- D. Real rate of interest, GDP and NNPM

Ans: C

25. The growth rate of real agricultural wages in the post-reform period (1993-94 to 1999-2000) was:

- A. 1.3%\*
- B. 5.1%
- C. 0.1%
- D. 3.7%

Ans: A

26. According to the poverty estimates, head count ratio in India during 2009-10 was:

- A. 33.8
- B. 20.9
- C. 12.0
- D. 29.8\*

Ans: D

27. Identify the strategic factor necessary for inclusive growth :

- A. Industrial expansion led by productivity growth
- B. Expansion of IT
- C. Effective governance\*

D.Reduction of tax-GDP ratio

Ans:C

28.As per the Budget estimates of 2015-2016,what is the fiscal deficit as a percentage of GDP targeted?

A.4.9%

B.3.9%\*

C.2.8%

D.1.1%

Ans:B

29.As per the DML(2013)report,the largest proportion of domestic migrant labour in Kerala hail from:

A.Bihar

B.Orissa

C.West Bengal\*

D.Assam

Ans:C

30.The most dynamic element in the employment sector in Kerala during 1999-2004 was:

A.Extraordinary decrease of the unemployed

B.Increase in the proportion of employed in many sectors

C.Increase in agricultural labourers.

D.Debate in the employment among women\*

Ans:D



31.The rate of growth of Per Capita NNP during 2004-2005 to 2011-2013 as per 1999-2000 prices was:

- A.1.4%
- B.6.3%\*
- C.3.2%
- .D.4.7%

Ans:B

32.Physical connectivity in the PURA model aims at:

- A.Grouping of 15 to 25 villages together and linking each other by road.\*
- B.Linking villages with IT services
- C.Marketing facilities in villages
- D.Expansion of agricultural and allied activities

Ans:A

33.The Phenomenon of price rise due to multiplicity of taxes is called:

- A.Hyper inflation
- B.Inflation
- C.Disinflation
- D.Cascading effect\*

Ans:D

34.The most important economic consequences of demographic transition in Kerala in the 21<sup>st</sup> Century are:

- A.Decline in the size of labour force and aging\*
- B.Decline in fertility rate and increase in mortality rate
- C.Increase in potential support ratio
- D.None of the above

Ans:A

35.Under the new inflation targeting mechanism,Government of India has mandated RBI to bring down inflation by:

A.Below 3.8% by December 2016

B.Below 6% by January 2016\*

C.Below 3% by December 2016

D.Below 5.3% by January 2016

Ans:B

36.As per the CSO estimates of 2014 Gross Domestic Savings in India as a percentage of GDP during 2011-12 was:

A.33.68

B.30.5

C.31.35\*

D.36.82

Ans:C

37.Which of the following is included in the Child Labour(Prohibition and Regulation)Act of 1986?

A.Work in the railways

B.Work as domestic servants

C.Work in ports

D.All of the above\*

Ans:D

38.The principal objective of the MUDRA Bank is:

A.Facilitating the expansion of selected big industrial units

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B.To bring stability to micro finance system\*

C.Sustainable development in rural area

D.Technological assistance to urban small scale Industrial units

Ans:B

39.According to 2004-2005 prices, the growth of service sector during the first year of the Twelfth plan(2012-2013)was:

A.6.96%\*

B.9.67%

C.10.27%

D.6.78%

Ans:A

40.Self-Employment and Talent Utilisation(SETU)mechanism established by the central Government comes under:

A.MGNREGA

B.PMSBMY

C.NITI Aayog\*

D.PMAGY

Ans:C

41.The slope of the line through the points(1,1) and (4,4) is:

A.3

B.1\*

C.4

D.1/3

Ans:B

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42.

43.The domain of the real valued functions  $f(x)=\text{Square root of } 9-x$  is:

Ans:- $\alpha < X \text{ less than equal to } 9$

44.The value of  $\lim_{x \rightarrow 0} (3x^2 - 7x)/(5x^2 + 7 - 8)$  is:

Ans:0

45.The derivative of the function  $\text{Sin}^{-1}(\text{Square root of } 1-x^2)$  is:

Ans:- $1/\text{Square root of } 1-x^2$

46.If the total cost C of making x units of a product is  $C=0.03x^3 + 0.04x^2 + 8x + 10000$  then the marginal cost at 100 units output is:

A.1000

B.900\*

C.400

D.Data insufficient

Ans:B

47.The integral of  $a^x/\log_e a$  is:

Ans:  $(a^x/(\log_e a)^2) + C$

48.A dealer got a profit of 20% by selling an article for 4 144.If he wants to make a profit of 30%,the selling price should be:

A.4 156\*

B.4 216

C.4 96

D.4 148.33

Ans:A

49.Which of the following statements about any two square matrices of the same order is false?

- A.Addition is associative
- B.Multiplication is commutative\*
- C.Multiplication is associative
- D.Addition is commutative

Ans:B

50.The value of  $\log_{\sqrt[3]{1728}}$  is:

- A.3.2375
- B.4.0000
- C.6.0000\*
- D.6.2375

Ans:C

51.The supply and demand curves are respectively  $y=8x$  and  $y=20-x^2$ .Then the equilibrium price is:

- A.2
- B.0
- C.17
- D.16\*

Ans:D

52.In a survey regarding the alcohol consumption of people in a village it was observed that 55% of the people consume liquor A,52% liquor B,40% liquor C,30% liquor A and B,25% liquor B and C,20% liquor A and C and 10% all the three brands.The percentage of people in the village those who do not consume any kind of liquor of the above three kinds:

A.82%

B.47%

C.18%\*

D.13%

Ans:C

53.The derivative of the function 2 Square root of Pie x is:

A.1/2 Square root of Pie x

B.Square root of Pie/x\*

C.1

D.1/Square root of X

Ans:B

54.Which of the following statements regarding the extreme values of the function  $f(x)=x^3$  is true?

A.Has no maximum

B.Has no minimum

C.Has both maximum and minimum

D.Has neither a maximum nor a minimum\*

Ans:D

55.If an amount of 4 12,540 is divided among A,B and C so that

A shall receive  $\frac{3}{7}$  as much as B and C together receive,then A must get:

A.5374.29

B.3762\*

C.4180

D.Data insufficient

Ans:B

56.The value of  $1+1/2+1/2^2+1/2^3+1/2^4+\dots$  Is:

A.1.5

B.Square root of 2

C.2\*

D.2.4

Ans:C

57.The sum of the first 20 odd natural numbers is:

A.400\*

B.210

C.420

D.2870

Ans:A

58.The sum of 11 consecutive terms of an AP is 132.Then the 6<sup>th</sup> term is:

A.22

B.66

C.12\*

D.6

Ans:C

59.The number of ways in which the letters of the word ACCOUNTANT can be arranged among themselves is:

A.45.360\*

B.3,62,880

C.504

D.15,120

Ans:A

60.What does the range address A1:D4 in Microsoft Excel worksheet indicate?

- A.The two cells A1 and D4
- B.The four diagonal cells for A1 to D4
- C.All cells in the sheet except A1 and D4
- D.All the 16 cells from A1 to D4 in the 4 rows and 4 columns\*

Ans:D

61.Kanni 10 Day(Malayalam month-kanni)was commemorated by the progressive people of Kerala in connection with which of the following event?

- A.Punnapra-Vayalar Revolt
- B.Temple Entry Proclamation
- C.Deportation of Swadesabhimani K.Ramakrishna Pillai\*
- D.Birthday of Sree Narayana Guru

Ans:C

62.Which newspaper from Malabar was known as 'The Bible of the Tiyyas'?

- A.Sujanadhini
- B.Mithavadi\*
- C.Sugunabodhini
- D.Kerala Kaumudhi

Ans:B

63.A Malayalam novel published in 1978 which depicts the story of a village around 250 years and consists of around 380 characters;but



there are no hero or heroine.It also reveals the transformation of the social life in Travancore.Which is that novel?

A.Oru Desathinte Katha of S.K.Pottakkad

B.Kayar of Thakazhi Sivasankara Pillai\*

C.Avakasikal of Vilasini

D.Khasakkinte Ithihasam of O.V.Vijayan

Ans:B

64.The famous Muthukulam Speech was made by:

A.C.V.Kunjuraman

B.C.Kesavan

C.K.Sukumaran

D.Mannath Padmanabhan\*

Ans:D

65.Which among the following personalities have the credit to be jailed by the Travancore government for five months during the Vaikom Satyagraha period and fifteen months imprisonment at the Singapore Jail during the Second World War Period?

A.K.P.Kesava Menon\*

B.E.V.Ramaswami Naicker

C.Captain Lakshmi

D.Mullasserri Narayanan Nambi

Ans:A

66.Match the following : A B

A.SNDP(i)St.Kuriakose Elias Chavara

B.NSS(ii)V.Janamma

C.PRDS(iii)Dr.P.Palpu

D.CMI(iv)Panangottu Kesava Panikkar

Ans:A(III)B(iv)C(ii)D(i)

**67.Who was known as ‘The Father of tile industry in Kerala?**

A.Benjamin Bailey

B.William Carrey

C.George Plub\*

D.Col.Munroe

Ans:C

**68.Who was the only Malayali Mentioned by Gandhiji in his Autobiography?**

A.T.K.Madhavan

B.Barrister G.P.Pillai\*

C.T.K.Velu Pillai

D.K.Kelappan

Ans:B

**69.”I have been touring different parts of the world.During these travels I have had good fortune to come into contact with several saints and rishis.But I have frankly to admit that I have not come across one who is spiritually greater than Swami Narayana Guru of Malayalam”.Who made the above statement?**

A.Rabindranath Tagore\*

B.Mahatma Gandhi

C.C.F.Andrews

D.Roman Rolland

Ans:A

70.Who wrote the work,;Kaattile Jyeshtan'?

A.K.P.Vallon

B.Ponkunnam Varkey

C.Pandit K.P.Karuppan\*

D.Kurur Nilakandan Namboodiripad

Ans:C

71.The present logo of University Grant Commission (UGC)was designed by:

A.Anjali Gupta

B.Priya Jayanand\*

C.Arun Vijayaraghav

D.Udaya Kumar

Ans:B

72.Gandhi-Irwin Pact signed on:

A.5<sup>th</sup> March 1931\*

B.21<sup>st</sup> March 1931

C.29<sup>th</sup> May 1932

D.21<sup>st</sup> March 1932

Ans:A

73.Indian Space Research Organization(ISRO)was started in the year:

A.1979

B.1969\*

C.1970

D.1966

Ans:B

74.Which state is the largest producer of saffron in India?

A.Kamataka

B.Jammu and Kashmir\*

C.Punjab

D.Andhra Pradesh

Ans:B

75.The famous E-Commerce Company FLIPKART founded by:

A.Sanjay Prakash and Bobby Prakash

B.Sergey Bin and Larry Page

C.Sachin Bansal and Binny Bensal\*

D.Sachin Sanyal and Kanu Sanyal

Ans:C

76.Who wrote the famous novel,'The Rebel Generation'?

A.Virginal Wolf

B.Mary Woodstonecraft

C.Jumba Lahri

D.Kuller Johanna\*

Ans:D

77.Fort Pokhran is situated at:

A.Jaisalmier\*

B.Malwa

C.Peshwar

D.Fathehpur Sikri

Ans:A

78.'RAMMASUN'a typhoon hit in the Philippines in 2014,the Thai(Siamese)word RAMMASUN means:

A.God of Thunder\*

B.Fire

C.The Disaster

D.God of the Sea

Ans:A

79.Which sea literally means"The middle of the Earth"?

A.Caspian Sea

B.Pacific Ocean

C.Bay of Siberia

D.Mediterranean Sea\*

Ans:D

80.Which among the following cricketers died due to injury in the field in 2014?

A.Jimmy Weish

B.Philip Joel Hughes\*

C.Martin Hughes

D.Normal Philip

Ans:B

81.India's first computer was installed at Indian Statistical institute,Kolkata in the year:

A.1950

B.1952

C.1956\*

D.1958

Ans:C

**82.**Who is the founder of “Sankhya”,the Indian Journal of Statistics?

A.C.R.Rao

B.R.C.Bose

C.S.N.Roy

D.P.C.Mahalanobis\*

Ans:D

**83.**Which ministry co-ordinates the census activities in India?

A.Home Affairs\*

B.MoSPI

C.HRD

D.Finance

Ans:A

**84.**Which of the following measures involve nominal scale?

A.The runs scored by a batsman

B.The rank of a student in a test

C.The height of a tree

D.The number on an automobile license plate\*

Ans:D

85.A random sample of 50 is picked without replacement from a population of 1000 adult males.If the standard deviation of the distribution of their heights is known to be 3 inches,then the standard error of the sample mean is:

- A.3/Square root of 50
- B.Square root of 19/Square root of 111\*
- C.Square root of 855/Square root of 5000
- D.Square root of 18/Square root of 95

Ans:B

86.Which of the following statements is true?

- A.Sample Survey is free of non-sampling errors
- B.Sampling error is present in both census and sample surveys
- C.Non-sampling error is comparatively low in sample surveys\*
- D.Non-sampling error is comparatively low in census surveys

Ans:C

87.If a continuous random variable x has a pdf of the form  $f(x)=2x/9;0<x<3$ ,and 0 otherwise,then the median of X is:

- A.3/2
- B.2/3
- C.3/Square root of 2\*
- D.2/Square root of 3

Ans:C

88.

89.A couple has two children one of them is known to be a boy.What is the probability that they have two boys?

A.1/4

B.1/3\*

C.3/4

D.1/2

Ans:B

90.The expected value of the random variable X having pdf  $f(x)=(|x-2|)/7$  for  $x=-1,0,1,3$  is:

A.1/7\*

B.1

C.3/7

D.-1/7

Ans:A

91.

92.Which of the following methods is are used for the computation of consumer price index numbers?

A.Aggregate expenditure method

B.Family budget method

C.Chain base method

D.Both(a)and (b)\*

Ans:D

93.Which ministry in India is responsible for compiling Wholesale Price Index?

A.Labour

B.Commerce and Industry\*

C.MoSPI



D.Finance

Ans:B

94.The salary of a person in the base year is \$ 20,000 per month and in the current year \$50,000.If the current Consumer Price Index is 325 then the allowance required to maintain the same standard of living is:

A.\$30,000

B.\$35,000

C.\$15,000\*

D.None of these

Ans:C

95.Suppose a family spends on food ,housing and clothing in the ratio 5:3:2.IF there is a rise in prices of these heads by 40,30 and 20 percent respectively,then the family budget for these items will be increased by:

A.33%\*

B.30%

C.25%

D.None of these

Ans:A

96.If the two lines of regression are  $x+2y-5=0$  and  $2x+3y-8=0$  then the correlation between x and y is:

A.Square root of  $3/2$

B.-Square root of  $3/2$ \*

C. $3/4$

D.- $3/4$

Ans:B

97.Which of the following components may be ignored when a time series data is collected on an annual basis?

- A.Trend
- B.Seasonal\*
- C.Cyclical
- D.Irregular

Ans:B

98.Crude birth rates are calculated by dividing the births during a year by:

- A.Mid –year population for that year\*
- B.End-year population for that year
- C.Population at the beginning of the year
- D.None of these

Ans:A

99.The chart suitable to represent the data on blood donation of O,A,B and AB blood groups by the students in a college during the last four years is:

- A.Pie chart
- B.Histogram
- C.Multiple bar diagram\*
- D.Cartogram

Ans:C

100.The average marks of boys in a class is 65 and that of girls is 70.The average of both the groups combined is 67 .Then the ratio of number of boys and girls is:

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A.1:3

B.2:3

C.3:1

D.3:2\*

Ans:D

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