



**CBRT - 2019  
Question Paper Grid**

Government of Goa

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**Set Name** 17032019\_Session ▼  
**Subjects** Statistical Officer ▼  
**Display** Without Answer Key ▼

**Statistical Officer**

Itemcode : **SO1031**

**Q1** : Fill in the blanks with the right preposition:

My best friend lives \_\_\_\_\_ M.G. Road

- (a) At
- (b) On
- (c) In
- (d) Near

Itemcode : **SO1032**

**Q2** : Fill in the blanks with the right preposition:

My parents have been married \_\_\_\_\_ thirty nine years.

- (a) At
- (b) To
- (c) In
- (d) For

Itemcode : **SO1033**

**Q3** : Fill in the blanks with the right preposition:

I've already heard the news. I know all \_\_\_\_ it.

- (a) About
- (b) Of
- (c) On
- (d) Around

Itemcode : **SO1034**

**Q4** : Fill in the blanks with the right preposition:

I couldn't agree \_\_\_\_ what my wife said.

- (a) To
- (b) With
- (c) On
- (d) About

Itemcode : **SO1035**

**Q5** : Fill in the blanks with the right preposition:

Which word does NOT belong with the others?

- (a) fair
- (b) just
- (c) equitable
- (d) favourable

Passage:

Read the passages carefully and answer the questions given below it:

July 15, 2010 turned out to be a historic day, as the Indian Rupee got the much-awaited symbol, just like other leading currencies of the world, viz Dollar, Euro, Pound Sterling and the Yen. The new symbol Rs. Is an amalgamation of Devanagari 'Ra' and the Roman 'R' without the stem. Till now, the Rupee was written in various abbreviated forms in different languages. The new symbol designed by IIT Bombay postgraduate Shri D. Udaya Kumar was approved by the Union Cabinet on July 15. "It's a big statement on the Indian currency. The symbol would lend a distinctive character and identity to the currency and further highlight the strength and global face of the Indian economy,"said Information and Broadcasting Minister Smt Ambika Soni , while briefing the media on the Cabinet decision.

The new symbol will not be printed or embossed on currency notes or coins, but it would be included in the 'Unicode Standard' to ensure that it is easily displayed and printed in the electronic and print media. The encoding of the rupee symbol in the Indian Standards is estimated to take about six months while encoding in the Unicode and ISO/IEC 10646 will take about 18 months to two years. It will also be incorporated in software packages and keyboards for use in India.

On March 5, 2009 the Government announced a contest to create a symbol for the Rupee, inviting entries for the symbol, which would reflect and capture the Indian ethos and culture.

Over 3000 entries were received, which were evaluated by a jury headed by the Deputy Governor, RBI, which also included experts from three reputed art and design institutes. The Jury selected five entries and also gave its evaluation of these five

entries to the Government to take a final decision.

Shri Udaya Kumar's entry was the "Best of Five" He will get an award of Rs. 2.5 lakh and more than that an incredible fame, as the designer of the Rupee symbol. "My design is a perfect blend of Indian and Roman letters capital 'R' and Devanagari 'Ra' which represents rupaiah, to appeal to international and Indian audiences. It is based on the tricolour, with two lines at the top and white space in between," a visibly-happy Kumar said.

The genesis of the word 'rupee' is in the Sanskrit word 'raupya' which means silver. Indian Rupee is variously called 'rupaya' in Hindi, 'rupiya' in Gujarati, 'roopayi' in Telugu and Kannada, 'rubai' in Tamil and 'rupyakam' in Sanskrit. However in Eastern India it is called 'Taka/Toka' in Bengali and Assamese and 'Tanka' in Oriya.

India stands among the earliest to issue coin, and as a result it has seen a wide range of monetary units throughout its history. There is some historical evidence to show that coins may have been introduced the first time some time between 2500 and 1750 BC.

**Itemcode : SO1036**

**Q6 :** Who is the Union Information and Broadcasting Minister?

- (a) Smt Sushma Swaraj
- (b) Smt Meera Kumar
- (c) Smt Pratibha Devisingh Patil
- (d) Smt Ambika Soni

**Itemcode : SO1037**

**Q7 :** What is the importance of 15 July in the history of Indian rupee?

- (a) The new Rupee symbol replaced the old.
- (b) The international community approved the Rupee symbol.
- (c) The Cabinet approved the much-awaited Rupee symbol.
- (d) Both A and C

**Itemcode : SO1038**

**Q8 :** Which of the following countries has a currency symbol?

- (a) China
- (b) France
- (c) Singapore
- (d) Not mentioned in the passage

**Itemcode : SO1039**

**Q9 :** Who has designed the newly approved Rupee symbol?

- (a) A teacher posted at IIT Bombay
- (b) Mr. Uday Kumar of Maharashtra
- (c) Mr. D Uday Kumar, a postgraduate
- (d) Information and Broadcasting Minister

**Itemcode : SO1040**

**Q10** The new design 'Rs.' finds its origin in

:

- (a) Devanagari
- (b) Roman
- (c) Devanagari and Sanskrit
- (d) Devanagari and Roman

**Itemcode : SO1041**

**Q11** Look at this series: 8, 43, 11, 41, \_\_, 39, 17. What number should fill in the blank?

:

- (a) 8
- (b) 14
- (c) 43
- (d) 44

**Itemcode : SO1042**

**Q12** Look at this series: U32, V29, \_\_, X23, Y20. What number should fill the blank?

:

- (a) W26
- (b) W17
- (c) Z17
- (d) Z26

**Itemcode : SO1043**

**Q13** Look at this series: V, VIII, XI, XIV, \_\_, XX. What number should fill the blank?

:

- (a) IX
- (b) XXIII
- (c) XV
- (d) XVII

**Itemcode : SO1044**

**Q14** JAK KBL LCM MDN \_\_\_\_\_

:

- (a) OEP
- (b) NEO
- (c) MEN
- (d) PFQ

Itemcode : **SO1045**

**Q15** Exercise is to gym as eating is to

:

- (a) Food.
- (b) Dieting.
- (c) Fitness.
- (d) Restaurant.

Itemcode : **SO1046**

**Q16** Odometer is to mileage as compass is to

:

- (a) Speed.
- (b) Hiking.
- (c) Needle.
- (d) Direction

Itemcode : **SO1047**

**Q17** Choose the pair that best represents a similar relationship to the one expressed in the original pair of words:

:

PSYCHOLOGIST : NEUROSIS

- (a) Ophthalmologist : Cataract
- (b) Dermatologist : Fracture
- (c) Rash : Orthopedist
- (d) Oncologist : Measles

Itemcode : **SO1048**

**Q18** Here are some words translated from an artificial language.

:

- i. granamelke means big tree
  - ii. pinimelke means little tree
  - iii. melkehoon means tree house
- Which word could mean "big house"?

- (a) Granahoon
- (b) Pinishur
- (c) Pinihoon
- (d) Melkegrana

Itemcode : **SO1059**

**Q19** Find the odd one : Paris, London, Seoul, Shanghai

:

- (a) Paris
- (b) London
- (c) Seoul
- (d) Shanghai

Itemcode : **SO1060**

**Q20** Divya while introducing Ravi to her husband said "His brother's father is the only son of my grandfather". How is Divya related to Ravi?

:

- (a) Aunt
- (b) Sister
- (c) Niece
- (d) Mother

Itemcode : **SO1049**

**Q21** Vijay Diwas is celebrated on:

:

- (a) 26th January
- (b) 26th May
- (c) 26th July
- (d) 16th December

Itemcode : **SO1050**

**Q22** Who is the Father of the White Revolution?

:

- (a) VergheseKurien
- (b) Dr.VenugopalAiyar
- (c) Dr.SarvepalliRadhakrishnan
- (d) A.K. Antony

Itemcode : **SO1051**

**Q23** The name of the autobiography written by Dr. APJ Abdul Kalam is:  
:

- (a) Ignited Minds: Unleashing the Power within India
- (b) Wings of Fire
- (c) Guiding Souls: Dialogues on the Purpose of Life
- (d) You Are Born to Blossom: Take My Journey Beyond

Itemcode : **SO1052**

**Q24** Where does the Prime Minister of India hoist the national tricolour on Independence Day?  
:

- (a) Agra Fort
- (b) Red Fort
- (c) Rashtrapati Bhavan
- (d) Parliament House

Itemcode : **SO1053**

**Q25** Who composed the lyrics of the song, VandeMataram?  
:

- (a) Subhash Chandra Bose
- (b) Bankim Chandra Chattopadhyay
- (c) Rabindranath Tagore
- (d) Aurobindo Ghose

Itemcode : **SO1054**

**Q26** Name the first indigenous nuclear submarine built by India  
:

- (a) Aridhaman
- (b) Vikramaditya
- (c) Virat
- (d) Arihant

Itemcode : **SO1055**

**Q27** The vehicle that the Indian Space Research Organisation (ISRO) is developing to launch a two-person crew to low Earth orbit is called:  
:

- (a) Chandrayaan
- (b) Prithviyaan
- (c) Gaganyaan
- (d) Vayuyaan

Itemcode : **SO1056**

**Q28** Name the present Chairperson of the Rajya Sabha of the Parliament of India  
:

- (a) Sumitra Mahajan
- (b) Venkaiah Naidu
- (c) Meira Kumar
- (d) Mohamad Hanif Ansari

Itemcode : **SO1057**

**Q29** The full form of NPCI is:  
:

- (a) National Payments Corporation of India
- (b) National Pension Corporation of India
- (c) National Payments Council of India
- (d) National Pension Commission of India

Itemcode : **SO1058**

**Q30** The Postal Highway Project, for which Government of India (GoI) is providing financial support, is located in which country?  
:

- (a) Afghanistan
- (b) Myanmar
- (c) Nepal
- (d) Sri Lanka

Itemcode : **SO1001**

**Q31** In a frequency distribution, if Mean= 5 and Median= 4 then mode = \_\_\_\_\_.  
:

- (a) 12
- (b) -2
- (c) 2
- (d) 8

Itemcode : **SO1002**

**Q32** For a negatively skewed distribution which of the following is true  
:

- (a)  $Mean < Mode < Median$
- (b)  $Mean < Median < Mode$
- (c)  $Median < Mode < Mean$
- (d)  $Median < Mean < Mode$

Itemcode : **SO1003**

**Q33** The first four moments of a distribution about the value 4 of a variate are -2,17,-30 and 108. Then the value of third moment about mean is equal to

- (a) 13
- (b) 56
- (c) -116
- (d) 88

Itemcode : **SO1004**

**Q34** If X and Y are independent variables with standard deviation values 3 and 2 respectively, then the value of Variance of X-Y is equal to

- (a) 1
- (b) 5
- (c) 13
- (d) None of the above.

Itemcode : **SO1005**

**Q35** Arithmetic mean of the coefficients of Regression is \_\_\_\_\_ the coefficient of Correlation.

- (a) Less than
- (b) Greater than
- (c) Equal to
- (d) None of the above

Itemcode : **SO1006**

**Q36** In an Examination, marks obtained by the students in Communication Skill and Statistics denoted by X and Y are normally distributed with mean 43 and 55 respectively and with standard deviation 5 and 2 respectively. The distribution of X+Y is

- (a) N(98,29)
- (b) N(12,29)
- (c) N(12,7)
- (d) N(13,29)

Itemcode : **SO1007**

**Q37** A frequency polygon is constructed by plotting frequency of the class interval and the

- (a) Lower limit of the class
- (b) Upper limit of the class
- (c) Mid value of the class
- (d) Any values of the class

Itemcode : **SO1008**

**Q38** A graph of a cumulative frequency distribution is called

- (a) Histogram
- (b) Ogive
- (c) Bar Chart
- (d) Frequency Polygon

Itemcode : **SO1009**

**Q39** If 10 is the mean of a set of 7 observations and 5 is the mean of a set of 3 observations then mean of combined set is

- (a) 8.5
- (b) 10
- (c) 7.5
- (d) 15

Itemcode : **SO1010**

**Q40** If 34 and 16 are the Arithmetic Mean and Geometric Mean of two positive numbers respectively then the numbers are

- (a) 62 and 4
- (b) 64 and 2
- (c) 62 and 2
- (d) 64 and 4

Itemcode : **SO1011**

**Q41** Which of the following is not true statement about Binomial probability distribution?

:

- (a) Each outcome is independent of each other.
- (b) Each outcome can be classified as either success or failure.
- (c) The probability of success must be constant from trial to trial.
- (d) The random variable of interest is continuous.

Itemcode : **SO1012**

**Q42** Consider the following statements.

:

- 1.Arithmetic Mean and Median are affected by extreme values of the observations.
- 2.Range and Arithmetic Mean are affected by extreme values of the observations.
- 3.Median and Mode are not affected by extreme values of the observations.
- 4.Range and standard deviations are not affected by extreme values of the observations.

Which of the following statements are true?

- (a) 1 and 2 Only
- (b) 2 and 4 only
- (c) 2 and 3 only
- (d) 1, 3 and 4

Itemcode : **SO1013**

**Q43** Which of the following is a true statement?

:

- (a) Only Geometric distribution has Lack of memory property.
- (b) Only Exponential distribution has Lack of memory property.
- (c) Binomial and Poisson distributions have Lack of memory property.
- (d) Geometric distribution and Exponential distributions have Lack of memory property.

Itemcode : **SO1014**

**Q44** Consider the following statements.

:

- 1.Sum of two Binomial Random Variables is a Binomial Random Variable.
- 2.Sum of two independent Binomial Random variables is a Binomial Random Variable.
- 3.The difference of two independent Poisson Random Variables is not a Poisson Random Variable.
- 4.Sum of two Poisson Random Variables is a Poisson Random Variable.
- 5.If X is a random variable with a continuous distribution function F, then F(X) has continuous Random Variable is a continuous Random Variable.

Which of the following statements are true?

- (a) 2 and 4 only
- (b) 2 and 3 only
- (c) 1 and 4 only
- (d) 2, 3 and 5 only

Itemcode : **SO1015**

**Q45** If X and Y are independent Poisson variates with mean 2 and 3 respectively then value of Variance (X-2Y)is

:

- (a) -4
- (b) 14
- (c) -10
- (d) 8

Itemcode : **SO1016**

**Q46** The sum of the squares of the deviations of a set of values is minimum when taken about

:

- (a) Quartile deviation
- (b) Range
- (c) Mean
- (d) Median

Itemcode : **SO1017**

**Q47** The effect of an extreme value of observation on the value of a correlation coefficient is that

:

- (a) it will always decrease a correlation coefficient.
- (b) it will always increase a correlation coefficient.
- (c) it might either decrease or increase a correlation coefficient, depending on where it is in relation to the other points.
- (d) it will have no effect on a correlation coefficient.

Itemcode : **SO1018**

**Q48** Suppose three people A, B and C roll a fair dice in order so that the first to roll 4 wins. Assuming that A begins and the game continues indefinitely their respective chances of winning are

- (a)  $\frac{30}{91}, \frac{36}{91}, \frac{25}{91}$   
(b)  $\frac{30}{91}, \frac{25}{91}, \frac{36}{91}$   
(c)  $\frac{36}{91}, \frac{30}{91}, \frac{25}{91}$   
(d)  $\frac{36}{91}, \frac{25}{91}, \frac{30}{91}$

Itemcode : **SO1019**

**Q49** If three persons selected at random are stopped on a street, then the probability that all of them were born on Monday is

- (a)  $\frac{3}{7^3}$   
(b)  $\frac{6^3}{7^3}$   
(c)  $\frac{6^3}{7^6}$   
(d)  $\frac{1}{7^3}$

Itemcode : **SO1020**

**Q50** If two regression lines coincide then the coefficient of correlation is

- (a) 1  
(b) -1  
(c)  $\pm 1$   
(d)  $\frac{1}{2}$

Itemcode : **SO1021**

**Q51** If  $2x - 9y + 6 = 0$  and  $x - 2y + 1 = 0$  are the two Regression lines then the value of Correlation Coefficient between X and Y is

- (a)  $\frac{2}{3}$   
(b)  $\frac{3}{2}$   
(c)  $\pm \frac{3}{2}$   
(d)  $\pm \frac{2}{3}$

Itemcode : **SO1022**

**Q52** In the Poisson distribution if  $P(X = 1) = \frac{1}{2}P(X = 2)$ , then the value of variance is

- (a) 2  
(b) 0  
(c) 1  
(d) 4

Itemcode : **SO1023**

**Q53** In the Probability density function

$f(x) = \begin{cases} ke^{-x/3} & \text{if } x \geq 0 \\ 0 & \text{otherwise} \end{cases}$ , value of constant  $k$  is

- (a) 3  
(b) -3  
(c)  $\frac{1}{3}$   
(d)  $\frac{2}{3}$

Itemcode : **SO1024**

**Q54**

:

$A$  and  $B$  are events such that  $P(A) = \frac{1}{4}$ ,  $P(B) = \frac{1}{3}$  and  $P(A \cap B) = \frac{1}{12}$ . Then consider the following:

1.  $P(A \cap \bar{B}) = \frac{1}{4}$

2.  $P(\bar{A} \cap \bar{B}) = \frac{1}{2}$

3.  $P(B|\bar{A}) = \frac{1}{3}$

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Itemcode : **SO1025**

**Q55**

: In a series of 10 observations, half of them equal to  $n$  and the remaining half equal to  $-n$ . If the standard deviation of the observations is 2, then  $|n|$  is equal to

- (a)  $\sqrt{2}$
- (b)  $\sqrt{\frac{2}{n}}$
- (c) 2
- (d)  $\sqrt{\frac{1}{n}}$

Itemcode : **SO1026**

**Q56**

: If  $\sigma_X^2$ ,  $\sigma_Y^2$  and  $\sigma_{X-Y}^2$  are the variances of  $X$ ,  $Y$  and  $X - Y$  respectively, then the coefficient of correlation between  $X$  and  $Y$  is

- (a)  $\frac{\sigma_X^2 - \sigma_Y^2 + \sigma_{X-Y}^2}{2\sigma_X\sigma_Y}$
- (b)  $\frac{\sigma_X^2 + \sigma_Y^2 + \sigma_{X-Y}^2}{2\sigma_X\sigma_Y}$
- (c)  $\frac{\sigma_X^2 + \sigma_Y^2 - \sigma_{X-Y}^2}{\sigma_X\sigma_Y}$
- (d)  $\frac{\sigma_X^2 + \sigma_Y^2 - \sigma_{X-Y}^2}{2\sigma_X\sigma_Y}$

Itemcode : **SO1027**

**Q57**

: Relationship between Arithmetic Mean ( $AM$ ), Geometric Mean ( $GM$ ) and Harmonic Mean ( $HM$ ) is

- (a)  $(AM) \times (GM) = (HM)^2$
- (b)  $(AM) \times (HM) = (GM)^2$
- (c)  $(HM) \times (GM) = (AM)^2$
- (d)  $(HM) \times (GM) = (AM)$

Itemcode : **SO1028**

**Q58**

: If  $n_1, n_2$  are sizes;  $\bar{x}_1, \bar{x}_2$  the means and  $\sigma_1, \sigma_2$  the standard deviations of two series;  $\bar{x}$ , mean of the combined series then the variance of the combined series is

- (a)  $\frac{1}{n_1 + n_2} [n_1(\sigma_1^2 + (\bar{x}_1 - \bar{x})^2) + n_2(\sigma_2^2 + (\bar{x}_2 - \bar{x})^2)]$



$$(b) \frac{1}{n_1 + n_2 - 2} [n_1(\sigma_1^2 + (\bar{x}_1 - \bar{x})^2) - n_2(\sigma_2^2 + (\bar{x}_2 - \bar{x})^2)]$$

$$(c) \frac{1}{n_1 + n_2} [n_1(\sigma_1^2 + (\bar{x}_1 - \bar{x})^2) - n_2(\sigma_2^2 + (\bar{x}_2 - \bar{x})^2)]$$

$$(d) \frac{1}{n_1 + n_2 - 2} [n_1(\sigma_1^2 + (\bar{x}_1 - \bar{x})^2) + n_2(\sigma_2^2 + (\bar{x}_2 - \bar{x})^2)]$$

Itemcode : **SO1029**

**Q59** Consider the following statements.

1. A distribution is skewed if Quartiles are equidistant from Median.
2. For any two events  $A$  and  $B$  if  $B \subset A$ , then  $P(A) \leq P(B)$ .
3. For the Normal distribution all odd order moments about mean vanish.
4. Two uncorrelated variables are always independent.
5. If  $X$  is a random variable with a continuous distribution function  $F$ , then  $F(X)$  is a continuous Random Variable.

Which of the following statements are true?

- (a) 3 and 5 only
- (b) 2 and 3 only
- (c) 1, 2 and 4 only
- (d) 2, 3 and 5 only

Itemcode : **SO1030**

**Q60** If  $X$ ,  $Y$  and  $Z = X + 2Y$  are variables such that  $Var(X) = 4$ ,  $Var(Y) = 3$  and  $Var(Z) = 4$ .

Consider the following statements in respect of the above:

1. The covariance between  $X$  and  $Y$  is  $-3$ .
2. The correlation between  $X$  and  $Y$  is  $-\frac{\sqrt{3}}{2}$ .
3. The regression coefficient of  $Y$  on  $X$  is  $\frac{3}{4}$ .
4. The covariance between  $Y$  and  $Z$  is  $2$ .

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 1,2,3 and 4
- (c) 1,2 and 3 only
- (d) 1,2 and 4 only