

# DEVI AHILYA VISHWAVIDYALAYA, INDORE

Ph.D. Entrance Test

May, 2018

Faculty: Management

Subject: Management

Roll No.: \_\_\_\_\_

Time: 2 Hours

Max. Marks: 100

Minimum Qualifying Marks: 50

## **INSTRUCTIONS:**

1. Check that your question booklet contains one hundred questions (Part-A: 50 + Part-B: 50). After examination the question booklet should be carried by the candidate for his/her record.
2. Each question carries ONE mark. There is NO negative marking. Each correct answer will be awarded one mark and zero mark will be awarded for wrong / blank answer.
3. To indicate your response in the response sheet bubbles should be darkened completely and properly. Use only blue/black ball point pen to fill up the bubble. Use of pencil is strictly prohibited. Cutting and erasing on response sheet is not allowed. Do not use any stray mark on the response sheet. If more than one bubble is darkened, it shall be taken as incorrect answer. Do NOT use marker /white fluid / eraser or any other device to hide the answer already shaded.
4. Candidates are advised to keep the response sheet clean. No marks whatsoever should be made on the response sheet other than specified bubbles.
5. Fill up the necessary information in the response sheet.
6. Answers are to be given in the response sheet only, and not in the booklet. Rough work is to be done on the blank pages provided at the end of this booklet but not on any other paper or response sheet.
7. No clarification will be provided about questions in the paper.
8. Programmable/Watch Calculators, Mobile Phones, etc. are not allowed. However, scientific calculators are allowed in engineering / science subjects and simple calculators are allowed in other subjects.
9. The candidate should keep with him / her original of photo ID proof (Driving licence/ Aadhar card/ Election card/ PAN card/ Passport etc.), admit card and copy of the DET application form filled online at the time of entrance test. Photocopy of the photo ID proof should be given to the invigilator in the examination hall.
10. No candidate is allowed to leave examination hall during the examination.

### PART-A



1. Which of the following is not an example of compressed data?  
A. Frequency distribution  
B. Data array  
C. Histogram  
D. Ogive  
E. None of these

2. As the number of observations and classes increase, the shape of a frequency polygon?  
A. Tends to become increasingly smooth  
B. Tends to become jagged  
C. Stays the same  
D. Varies only if data become more reliable  
E. None of these

3. Continuous data are differentiated from discrete data in that-  
A. Discrete data classes are represented by fractions  
B. Continuous data classes may be represented by fractions  
C. Continuous data take on only whole numbers  
D. Discrete data can take on any real  
E. None of these

4. In which of these cases would the mode be most useful as an indicator of central tendency?  
A. Every value in a data set occurs exactly once  
B. All but three values in a data set occur once; three values occur hundred times each  
C. All values in a data set occurs hundred times each  
D. Every observation in a data set has the same value  
E. None of these

5. When referring to a curve that tails off to the left end, you would call it a  
A. Symmetrical  
B. Skewed right  
C. Positively skewed  
D. All of these  
E. None of these

6. What is the probability that a value chosen at random from a particular population is larger than the median of the population:  
A. 0.25  
B. 0.5  
C. 1.0  
D. 0.67  
E. None of these

7. If A and B are mutually exclusive events, then  $p(A \text{ or } B) = p(A) + p(B)$ . How does the calculation of  $p(A \text{ or } B)$  change if A and B are not mutually exclusive:  
A.  $P(AB)$  must be subtracted from  $p(A) + p(B)$   
B.  $P(AB)$  must be added to  $p(A) + p(B)$   
C.  $[p(A) + p(B)]$  must be multiplied by  $p(AB)$   
D.  $[p(A) + p(B)]$  must be divided by  $p(AB)$   
E. None of these

8. Symbolically, a marginal probability is:  
A.  $p(AB)$   
B.  $p(BA)$   
C.  $P(B/A)$   
D.  $P(ABC)$   
E. None of these

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9. For a normal curve with  $\mu=55$  and  $\sigma=10$ , how much area will be found under the curve to the right of the value 55

- A. 1.0  
B. 0.68  
C. 0.5  
D. 0.32  
E. Cannot be determined from the information given

10. Suppose we are attempting to estimate a population variance by using  $s^2$  it is incorrect to calculate  $s^2$  as  $\Sigma(x-\bar{x})^2/n$  because the value would be :

- A. Biased  
B. Insufficient  
C. Inconsistent  
D. All of these  
E. None of these

11. If a statistic underestimates a population parameter as much as it overestimates it, we would call it:

- A. Consistent  
B. Sufficient  
C. Efficient  
D. All of these  
E. None of these

12. Suppose that a hypothesis test is being performed for a process in which a type I error will be very costly, but a type II error will be relatively inexpensive and unimportant. Which of the following would be the best choice for  $\alpha$  in the test:

- A. 0.01  
B. 0.10  
C. 0.25  
D. 0.50  
E. None of these

13. Airline A and airline B boast successful baggage routing rates of 95 and 98 percent, respectively. From this information we can determine:

- A. Airlines A has better baggage service  
B. Airline B has better baggage service  
C. Baggage services are equally accurate  
D. Nothing; we need more information  
E. None of these

14. You wish to test whether the mean of population 2 is at least 10 more than the mean of population 1. What value of  $(\mu_1 - \mu_2)_{H_0}$  should you use when computing the standardised test statistic?

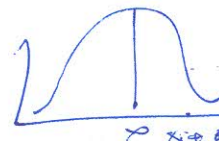
- A. 0  
B. 10  
C. -10  
D.  $\pm 5$   
E. None of these

15. Which of the following test could be based on the normal distribution?

- A. Difference between independent means  
B. Difference between dependent means  
C. Difference between proportions  
D. All of the above  
E. (a) and (c) but not (b)

16. A Chi Square value can never be negative because:

- A. Difference between expected and observed frequencies are squared  
B. A negative value would mean that the observed frequencies were negative  
C. The absolute value of the differences is computed  
D. None of these  
E. (a) and (b) but not (c)



$$z = \frac{x - \mu}{\sigma}$$

$$\bar{x} = \mu + \sigma$$

$$= 55 + 10 = 65$$

55

