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  - e) Ordinal
9. What type of scale measures the psychological meanings of an attitude object using bipolar adjectives?
- a) Likert
  - b) Summated rating
  - c) Stapel
  - d) Semantic differential
  - e) Constant sums
10. The choice of a scale depends upon
- a) Researchers problem definition
  - b) Research design
  - c) Sensitivity of the variables being measured
  - d) All the above

**Activity 3.1:**

1. A researcher wishes to compare three brands of tractors on the following attributes:
  - Engine horsepower
  - Seating comfort
  - Value for money
  - Economy
  - Features
  - i. Design a Likert scale to accomplish this task.
  - ii. Design a semantic differential scale to accomplish this task.
  - iii. Design a graphic rating scale to accomplish this task.
2. A company is studying the demographics of its customers. As part of the study, they collected the following variables: gender, marital status, credit rating (low, medium, high), annual income, and age. Label each variable as qualitative or quantitative, discrete or continuous, and nominal, ordinal, interval, or ratio.



3. You are interested to ascertain whether women who participated in a company-based mentor program were satisfied with their experience. Develop a short questionnaire that asks women to rate their satisfaction with eight different areas of mentoring (e.g., giving advice, networking, and providing emotional support). The scoring system should be able to average responses across all eight areas.

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### 3.6 LET US SUM UP

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There are four levels of measurement viz; nominal, ordinal, interval, and ratio. The nominal level is the basic and the most elementary scale where the data are sorted into categories with no particular order of the categories. The ordinal level of measurement presumes that one classification is ranked higher than another. The interval level of measurement has the ranking characteristic of the ordinal level of measurement plus the characteristic that the distance between values is a constant size. The ratio level of measurement has all the characteristics of the interval level, plus there is an absolute zero point and the ratio of two values is meaningful.

For measuring attitudes which is an enduring disposition to consistently respond in a given manner, we use specifically designed attitude measurement scales. The attitude measurement scales are designed to capture the affective, cognitive, and behavioral aspects of the respondents.

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### 3.7 KEYWORDS

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<b>Measurement Scales</b>	:	The scale of measurement refers to how variables are measured.
<b>Nominal</b>	:	Classifies variables simply in terms of their names and the categories cannot be ranked.
<b>Ordinal</b>	:	Contains non-numeric categories that can be ranked.
<b>Interval</b>	:	Contains categories in which the actual distances, or intervals, between categories, can be compared.
<b>Ratio</b>	:	Like the interval-scale variable, however, it has a non-arbitrary zero value.

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### 3.8 SUGGESTED FURTHER READINGS / REFERENCES

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### **3.9 CHECK YOUR PROGRESS: POSSIBLE ANSWERS**

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#### **Check Your Progress 3.1**

1. True
2. False
3. False
4. (c)
5. (a)

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#### **Check Your Progress 3.2**

1. True
2. True
3. True
4. True
5. (a)

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#### **Check Your Progress 3.3**

1. False
2. False
3. False

4. True
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#### **Check Your Progress 3.4**

1. True
  2. (c)
  3. (a)
  4. (d)
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#### **Check Your Progress 3.5**

1. (b)
  2. (b)
- 

#### **Check Your Progress 3.6**

1. (a)
  2. (d)
  3. True
  4. False
  5. True
  6. False
  7. True
  8. (b)
  9. (d)
  10. (d)
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### **3.10 UNIT END QUESTIONS**

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1. What is meant by attitude measurement?
2. Why might a psychologist prefer quantitative data? Why qualitative? Which do you think would be better if we wanted to assess people's attitudes?
3. State the four scales of measurement. Which scale of measurement is the most informative?
4. What is the main distinction between variables on an interval and ratio scale of measurement?
5. What is the difference between a ratio scale and an interval scale?

6. What important property do interval scales have that ordinal and nominal scales do not have?

