

JB Academy, Ayodhya
Annual Examination 2023-24
Sub: Data Science, Class - XI

Time Allowed: 2:00 Hrs

MM-50

Section-A (Each question carries one mark)

1. What function is used to create a vector in R?
a) list () b) vector () c) c () d) array ()
2. What does the `%in%` operator do in R when used with vectors?
a) Checks if two vectors are equal
b) Tests for the presence of elements in one vector within another
c) Performs element-wise multiplication of two vectors
d) Concatenates two vectors
3. In R, what does the `cbind()` function do when used with matrices?
a) Concatenate two matrices by rows b) Combine two matrices into a list
c) Bind columns of two matrices d) Create a matrix with specified dimensions
4. What does the `%*%` operator do in R when used with matrices?
a) Calculates element-wise multiplication
b) Computes the Kronecker product of two matrices
c) Performs matrix multiplication
d) Concatenates two matrices
5. How can you access the "Salary" column in a data frame named "employee_data" in R?
a) `employee_data$Salary` b) `employee_data["Salary"]`
c) `employee_data[, "Salary"]` d) `extract(employee_data, "Salary")`
6. How do you add a new column named "Department" with values "IT" to an existing data frame 'emp_df' in R?
a) `emp_df$Department <- "IT"` b) `add_column(emp_df, "Department", "IT")`
c) `emp_df["Department"] <- "IT"` d) `insert_column(emp_df, "Department", "IT")`
7. In R, what does the `na.rm` parameter in the `mean()` function do?
a) Removes non-numeric values from the vector
b) Ignores missing values in the calculation
c) Rounds the mean to the nearest integer
d) Computes the mean including missing values
8. How can you check if a list named "my_list" is empty in R?
a) `length(my_list) == 0` b) `is_empty(my_list)`
c) `my_list == NULL` d) `isempty(my_list)`
9. What does the `unlist()` function do in R when applied to a list?
a) Removes missing values from the list
b) Converts a list to a vector by concatenating its elements
c) Extracts the unique values from the list
d) Unpacks the list into individual elements

10. How do you access the element in the second row and third column of a 2D array 'arr' in R?
a) arr[2, 3] b) arr[2][3] c) arr[3, 2] d) arr[[2, 3]]
11. Which function takes a dim attribute which creates the required number of dimensions?
a) Vector b) Array c) Matrix d) Lists
12. To present bars horizontally in a bar chart which argument can be used?
a) horizontal=True b) horiz=True c) beside=True d) radius
13. In a histogram which attribute of hist function is used to mention the width of each bar?
a) ylim b) width c) breaks d) radius
14. In the calculation of median for the vector , if we don't declare na.rm=True, in that case result for the median calculation returns
a) Error b) 0 c) NA d) None of these
15. Which of the following is a method of data collection by sensing?
a) Use of speed guns to measure the speed of vehicles by traffic police
b) Performing surveys to calculate population of the country
c) Performing experiments and observing the results
d) None of the above.
16. Sampling errors can be reduced by:
a) Correcting a faulty sample frame b) Increasing response rate
c) Increasing the sample size d) Reducing sample size
17. Which of the following is not a disadvantage of observational study?
a) We need to assign the subject to random treatment and control groups
b) Certain events may occur in the absence of the observer
c) Miss the reporting of critical observational details
d) Time spent is far more compared to the insights gained via observation
- 18) View or judgment formed about something not necessarily based on fact is known as ?
a) Identity b) Feelings c) Beliefs d) Opinion
- 19) Full form of NAPCC
a) National Action Plan on Climate Change
b) National Action Plan on Climate Control
c) National Action and Planning on Changing Climate
d) National Act on Prevention of Climate Change
- 20) Which one of the following is not a type of Business Activity
a) Trading b) Services c) Shopping d) Manufacturing
- 21) What are the close-ended questions?
a) Questions that can have any answer
b) Questions that do not have answers
c) Questions with yes or no answers
d) Questions that have many answers

22) What is "T" stands for in TEAM

- a) Tough b) Target c) Together d) Trust

23) CONECT model is associated with which skill?

- a) Self Improvement skills
b) Networking skills
c) Communication skills
d) Marketing skills

24) What does "A" stands for in SMART model

- a) Accurate b) Acquired c) Achievable d) Admire

25) Interjections are the words that _____ .

- a) Express strong emotions
b) Connect one word with another
c) Joins two nouns
d) Used before nouns

Section-B (Short answer questions, 2 marks each)

Attempt any 7

1. Write two benefits of implementing data governance framework.
2. Define correlation and causation.
3. Write two advantages of observational study.
4. What is confidence interval, what are two factors which affect confidence interval width.
5. Explain data frame with suitable example.
6. Explain trim () in reference of mean ().
7. Write short note on- Auto correct and Save As option of a word processor.
8. What are the benefits of working in a team?
9. What is time management and how can you manage your time?

Section-C

1. What according to you should be the ethical principles for conducting research that involves dealing with bank data. [3]

OR

What are different ways in which an entrepreneur can think to solve problems?

2. Write down one instance of a story and justify why you think it is a story? [3]
3. Write down three points which makes trial and assessment method unethical. [3]

OR

What values does a successful entrepreneur have? Write any three values, with examples.

4. Create a matrix of 3x3 and write code to delete 2 row and third columns of the matrix. [2]

OR

Write short cut keys for the following

- a. Save As
- b. Underline
- c. Spelling check
- d. Select All