Datatypes, Variables & Constants — Complete Question Bank (Beginner to Advanced)

BEGINNER LEVEL (Zero Level)

1. What is a datatype? Explain with two examples.
2. Define a variable. How is it used in a program?
3. What is a constant? Why do we use constants?
4. Write a program to print your name using a variable.
5. Store your age in a variable and print it.
6. Create two integer variables and print their sum.
7. Store a decimal number in a float variable and display it.
8. Create a constant value PI and print it.
9. Store true/false in a boolean variable and print it.
10. Create a string variable to store a city name and display it.

LEVEL 1 — Basic Real-Life Questions

11. Calculate final bill using item price stored in constants.
12. Store temperature in Celsius and convert to Fahrenheit.
13. Store your height and weight using variables.
14. Create constants for days in week, minutes in hour, etc.
15. Write a program that swaps two variables.
16. Store marks in 3 subjects and print total.
17. Store laptop price and discount as constants. Calculate final price.
18. Store principal, time, and rate variables and calculate simple interest.
19. Create a variable for speed and distance, compute time.
20. Use variables to store your first and last name and print full name.

LEVEL 2 — Logic Building

21. Store radius in a variable and calculate area using PI constant.
22. Create variables for water tank capacity and current water level.
23. Store two numbers; display which one is greater.
24. Store monthly salary and expenses; calculate savings.
25. Store electricity units consumed and calculate bill.

26. Store number of days late and apply fine using constants.
27. Create variables for phone storage and used storage; output remaining space.
28. Store 7-day temperature readings; calculate average.
29. Store online shopping prices and calculate final total with GST constant.
30. Store total kilometers traveled and fuel consumed; calculate mileage.

LEVEL 3 — Intermediate Questions

31. Create constants for exam pass mark and total marks; check if student passed.
32. Store employee basic salary; use constants for DA & HRA to compute gross.
33. Store distance and speed; compute travel time.
34. Store 5 product prices; calculate highest and lowest.
35. Store user's daily step count for 7 days; calculate total & average.
36. Create constant for per-day internet limit; calculate remaining data.
37. Store laptop RAM, ROM, and processor speed using correct datatypes.
38. Store student's roll number (int), name (string), marks (float). Print all.
39. Use constant fuel price and variable liters to compute total cost.
40. Store income and tax slabs as constants; compute tax payable.

LEVEL 4 — Advanced Logic

41. Create program to track expenses with multiple datatypes.
42. Store shop inventory: item name (string), quantity (int), price (float).
43. Store vehicle speed readings and compute violations.
44. Create constant for max login attempts; lock system after limit.
45. Store 12 month incomes and expenses; compute annual savings.
46. Store student's 10-subject marks and compute grade.
47. Use constants for currency conversion rates; convert multiple amounts.
48. Store cricket player's runs, strike rate, matches, and compute average.
49. Create constant MAX_SIZE for array; validate user input size.
50. Build menu-driven program using variables & constants only.

LEVEL 5 — Complex Realistic Problems

51. Mobile recharge data calculation using constants (data/day).
52. Build salary slip generator with allowances stored as constants.

53. Store product list for an e-commerce cart and compute total.

54. Create student database variables and compute pass/fail subject-wise.

55. Restaurant bill system with constants for GST and service charge.

56. Car loan EMI formula using constants for interest rate.

57. Multi-currency converter using multiple constants.

58. Track stock market values for a week; compute average & max.

59. Store weather forecast for 7 days; calculate temperature trends.

60. Hospital billing with constants for bed charge, doctor fees, medicine.

LEVEL 6 — Mini Projects Using Only Datatypes, Variables & Constants

61. Personal expense manager.

62. Fitness tracker (steps, calories, water intake).

63. Student marks analyzer with 5 subjects.

64. Basic banking system (deposit, withdraw, balance).

65. Online shopping cart calculator.

66. Travel distance & fuel cost estimator.

67. Train ticket fare calculator.

68. Exam result analyzer.

69. Monthly budget planner.

70. Temperature and humidity monitor.

LEVEL 7 — Professional Thinking Problems

71. CPU usage monitor using dummy variables.

72. Cloud storage usage calculator.

73. Internet speed meter (download/upload).

74. Freelance invoice generator using constants for tax rates.

75. Parking fee calculator with hourly constant.

76. Gym membership fee system.

77. Data usage tracker for Wi-Fi.

78. Bus ticket booking fare estimator.

79. Movie ticket booking logic.

80. Electricity bill analyzer with multi-rate slabs.

LEVEL 8 — Expert-Level Data Reasoning

81. Warehouse stock and reorder level tracker.

82. Bank loan interest projection.

83. Flight booking pricing logic.

84. Health monitoring (BMI, calories, protein).

85. Data analytics of weekly sales.

86. Monthly rainfall analyzer.

87. ATM cash management using constants.

88. Subscription plan usage tracker.

89. College result processing system.

90. Employee performance score computation.

LEVEL 9 — Industry Simulation Exercises

91. E-commerce checkout (discount, coupon, GST).

92. Cab fare estimator (base fare, per km rate).

93. School grading automation.

94. Hospital patient record storage.

95. Banking passbook entry simulation.

96. Retail store billing system.

97. Weather data analyzer for 15 days.

98. Freelancer income & tax calculation.

99. Real estate EMI calculator.

100. Salary + tax + allowances simulator.