[  
{  
"id": "1",  
"subject": "Physics",  
"question": "A body is moving with uniform velocity. Which of the following quantities remains constant?",  
"options": ["Speed", "Acceleration", "Displacement", "Momentum"],  
"correct\_answer": "Speed"  
},  
{  
"id": "2",  
"subject": "Physics",  
"question": "The SI unit of power is:",  
"options": ["Watt", "Joule", "Newton", "Pascal"],  
"correct\_answer": "Watt"  
},  
{  
"id": "3",  
"subject": "Physics",  
"question": "A ball is dropped from a height. The time taken to reach the ground is proportional to:",  
"options": ["Square of height", "Square root of height", "Height", "None of these"],  
"correct\_answer": "Square root of height"  
},  
{  
"id": "4",  
"subject": "Physics",  
"question": "Which of the following is a scalar quantity?",  
"options": ["Force", "Work", "Acceleration", "Momentum"],  
"correct\_answer": "Work"  
},  
{  
"id": "5",  
"subject": "Physics",  
"question": "Escape velocity from Earth is approximately:",  
"options": ["11.2 km/s", "8 km/s", "5.6 km/s", "15 km/s"],  
"correct\_answer": "11.2 km/s"  
},  
{  
"id": "6",  
"subject": "Physics",  
"question": "Newton's first law is also called:",  
"options": ["Law of Acceleration", "Law of Action and Reaction", "Law of Inertia", "Law of Conservation of Energy"],  
"correct\_answer": "Law of Inertia"  
},  
{  
"id": "7",  
"subject": "Physics",  
"question": "The acceleration of a body moving in a circular path with constant speed is directed:",  
"options": ["Along the tangent", "Along the radius towards the center", "Opposite to the direction of motion", "Away from the center"],  
"correct\_answer": "Along the radius towards the center"  
},  
{  
"id": "8",  
"subject": "Physics",  
"question": "The dimensional formula for force is:",  
"options": ["[MLT−2]", "[ML2T−2]", "[M2LT−1]", "[ML2T−1]"],  
"correct\_answer": "[MLT−2]"  
},  
{  
"id": "9",  
"subject": "Physics",  
"question": "The work done in moving a charge in an electric field depends on:",  
"options": ["Initial position only", "Final position only", "Both initial and final positions", "The path taken"],  
"correct\_answer": "Both initial and final positions"  
},  
{  
"id": "10",  
"subject": "Physics",  
"question": "A convex lens forms a virtual image when the object is placed:",  
"options": ["At infinity", "Beyond 2F", "Between F and the lens", "At F"],  
"correct\_answer": "Between F and the lens"  
},  
{  
"id": "11",  
"subject": "Physics",  
"question": "A satellite moving around the Earth is in:",  
"options": ["Free fall", "Equilibrium", "Uniform motion", "Accelerated motion"],  
"correct\_answer": "Free fall"  
},  
{  
"id": "12",  
"subject": "Physics",  
"question": "The resistance of a conductor increases with:",  
"options": ["Decreasing length", "Increasing cross-sectional area", "Increasing temperature", "Decreasing temperature"],  
"correct\_answer": "Increasing temperature"  
},  
{  
"id": "13",  
"subject": "Physics",  
"question": "Which of the following waves do not require a medium to propagate?",  
"options": ["Sound waves", "Water waves", "Electromagnetic waves", "Seismic waves"],  
"correct\_answer": "Electromagnetic waves"  
},  
{  
"id": "14",  
"subject": "Physics",  
"question": "Which of the following is the correct expression for kinetic energy?",  
"options": ["KE = 1/2 mv^2", "KE = mv^2", "KE = mgh", "KE = Fd"],  
"correct\_answer": "KE = 1/2 mv^2"  
},  
{  
"id": "15",  
"subject": "Physics",  
"question": "If the velocity of a body is doubled, its kinetic energy becomes:",  
"options": ["Two times", "Three times", "Four times", "Same"],  
"correct\_answer": "Four times"  
},  
{  
"id": "16",  
"subject": "Physics",  
"question": "The focal length of a convex mirror is always:",  
"options": ["Positive", "Negative", "Zero", "Infinity"],  
"correct\_answer": "Positive"  
},  
{  
"id": "17",  
"subject": "Physics",  
"question": "In simple harmonic motion, the acceleration of the particle is proportional to:",  
"options": ["Velocity", "Displacement", "Time", "Amplitude"],  
"correct\_answer": "Displacement"  
},  
{  
"id": "18",  
"subject": "Physics",  
"question": "The value of acceleration due to gravity (g) decreases with:",  
"options": ["Increase in altitude", "Increase in depth", "Increase in latitude", "Increase in mass"],  
"correct\_answer": "Increase in altitude"  
},  
{  
"id": "19",  
"subject": "Physics",  
"question": "The power of a convex lens is:",  
"options": ["Always positive", "Always negative", "Zero", "Sometimes positive, sometimes negative"],  
"correct\_answer": "Always positive"  
},  
{  
"id": "20",  
"subject": "Physics",  
"question": "A transformer works on the principle of:",  
"options": ["Ohm's law", "Electromagnetic induction", "Kirchhoff's laws", "Coulomb's law"],  
"correct\_answer": "Electromagnetic induction"  
},  
{  
"id": "21",  
"subject": "Physics",  
"question": "A particle moves in a circular path with constant speed. Which of the following remains constant?",  
"options": ["Velocity", "Acceleration", "Kinetic Energy", "None of these"],  
"correct\_answer": "Kinetic Energy"  
},  
{  
"id": "22",  
"subject": "Physics",  
"question": "A body is projected upwards with velocity u. The time taken to reach maximum height is:",  
"options": ["u/g", "2u/g", "u^2/g", "u/2g"],  
"correct\_answer": "u/g"  
},  
{  
"id": "23",  
"subject": "Physics",  
"question": "The SI unit of power is:",  
"options": ["Watt", "Joule", "Newton", "Pascal"],  
"correct\_answer": "Watt"  
},  
{  
"id": "24",  
"subject": "Physics",  
"question": "Which of the following is a scalar quantity?",  
"options": ["Force", "Acceleration", "Work", "Momentum"],  
"correct\_answer": "Work"  
},  
{  
"id": "25",  
"subject": "Physics",  
"question": "The escape velocity from Earth is approximately:",  
"options": ["11.2 km/s", "8 km/s", "5.6 km/s", "15 km/s"],  
"correct\_answer": "11.2 km/s"  
},  
{  
"id": "26",  
"subject": "Physics",  
"question": "Sample question 6 for Physics?",  
"options": ["Option 1", "Option 2", "Option 3", "Option 4"],  
"correct\_answer": "Option 1"  
},  
{  
"id": "27",  
"subject": "Physics",  
"question": "Sample question 7 for Physics?",  
"options": ["Option 1", "Option 2", "Option 3", "Option 4"],  
"correct\_answer": "Option 1"  
},  
{  
"id": "28",  
"subject": "Physics",  
"question": "Sample question 8 for Physics?",  
"options": ["Option 1", "Option 2", "Option 3", "Option 4"],  
"correct\_answer": "Option 1"  
},  
{  
"id": "29",  
"subject": "Physics",  
"question": "Sample question 9 for Physics?",  
"options": ["Option 1", "Option 2", "Option 3", "Option 4"],  
"correct\_answer": "Option 1"  
},  
{  
"id": "30",  
"subject": "Physics",  
"question": "Sample question 10 for Physics?",  
"options": ["Option 1", "Option 2", "Option 3", "Option 4"],  
"correct\_answer": "Option 1"  
},  
{  
"id": "31",  
"subject": "Chemistry",  
"question": "Which of the following is NOT a transition element?",  
"options": ["Zinc", "Copper", "Silver", "Calcium"],  
"correct\_answer": "Calcium"  
},  
{  
"id": "32",  
"subject": "Chemistry",  
"question": "The IUPAC name of CH3CH2CH2COOH is:",  
"options": ["Butanoic acid", "Propanoic acid", "Ethanoic acid", "Pentanoic acid"],  
"correct\_answer": "Butanoic acid"  
},  
{  
"id": "33",  
"subject": "Chemistry",  
"question": "Which of the following has the highest electron affinity?",  
"options": ["Fluorine", "Chlorine", "Bromine", "Iodine"],  
"correct\_answer": "Chlorine"  
},  
{  
"id": "34",  
"subject": "Chemistry",  
"question": "The hybridization of the central atom in SF6 is:",  
"options": ["sp3", "sp3d", "sp3d2", "sp2"],  
"correct\_answer": "sp3d2"  
},  
{  
"id": "35",  
"subject": "Chemistry",  
"question": "The number of sigma bonds in benzene is:",  
"options": ["6", "12", "18", "24"],  
"correct\_answer": "12"  
},  
{  
"id": "36",  
"subject": "Chemistry",  
"question": "Which of the following is a strong reducing agent?",  
"options": ["Na", "Al", "Fe", "Cu"],  
"correct\_answer": "Na"  
},  
{  
"id": "37",  
"subject": "Chemistry",  
"question": "The pH of a 0.01 M HCl solution is:",  
"options": ["1", "2", "3", "4"],  
"correct\_answer": "2"  
},  
{  
"id": "38",  
"subject": "Chemistry",  
"question": "The unit of rate constant for a zero-order reaction is:",  
"options": ["mol L−1s−1", "s−1", "L mol−1s−1", "L2mol−2s−1"],  
"correct\_answer": "mol L−1s−1"  
},  
{  
"id": "39",  
"subject": "Chemistry",  
"question": "Which of the following is an example of a buffer solution?",  
"options": ["CH3COOH + CH3COONa", "HCl + NaCl", "NaOH + NaCl", "H2SO4 + Na2SO4"],  
"correct\_answer": "CH3COOH + CH3COONa"  
},  
{  
"id": "40",  
"subject": "Chemistry",  
"question": "The oxidation state of sulfur in H2SO4 is:",  
"options": ["+2", "+4", "+6", "+8"],  
"correct\_answer": "+6"  
},  
{  
"id": "41",  
"subject": "Chemistry",  
"question": "Which of the following is NOT a colligative property?",  
"options": ["Osmotic pressure", "Boiling point elevation", "Vapor pressure lowering", "Density"],  
"correct\_answer": "Density"  
},  
{  
"id": "42",  
"subject": "Chemistry",  
"question": "The shape of NH3 molecule is:",  
"options": ["Linear", "Trigonal planar", "Tetrahedral", "Pyramidal"],  
"correct\_answer": "Pyramidal"  
},  
{  
"id": "43",  
"subject": "Chemistry",  
"question": "The bond order of O2 molecule is:",  
"options": ["1", "2", "3", "4"],  
"correct\_answer": "2"  
},  
{  
"id": "44",  
"subject": "Chemistry",  
"question": "Which of the following is a Lewis acid?",  
"options": ["NH3", "BF3", "H2O", "OH−"],  
"correct\_answer": "BF3"  
},  
{  
"id": "45",  
"subject": "Chemistry",  
"question": "The number of moles of KMnO4 required to oxidize 1 mole of FeC2O4 in acidic medium is:",  
"options": ["0.2", "0.6", "0.4", "0.8"],  
"correct\_answer": "0.6"  
},  
{  
"id": "46",  
"subject": "Chemistry",  
"question": "The compound with the highest boiling point is:",  
"options": ["CH4", "C2H6", "C3H8", "C4H10"],  
"correct\_answer": "C4H10"  
},  
{  
"id": "47",  
"subject": "Chemistry",  
"question": "The number of isomers for C4H10 is:",  
"options": ["2", "3", "4", "5"],  
"correct\_answer": "2"  
},  
{  
"id": "48",  
"subject": "Chemistry",  
"question": "The product of the reaction between benzene and chlorine in the presence of sunlight is:",  
"options": ["Chlorobenzene", "Benzyl chloride", "Hexachlorobenzene", "Benzene hexachloride"],  
"correct\_answer": "Benzene hexachloride"  
},  
{  
"id": "49",  
"subject": "Chemistry",  
"question": "The catalyst used in the Haber process is:",  
"options": ["Fe", "Pt", "Ni", "V2O5"],  
"correct\_answer": "Fe"  
},  
{  
"id": "50",  
"subject": "Chemistry",  
"question": "The compound used in the preparation of Bakelite is:",  
"options": ["Phenol", "Formaldehyde", "Acetic acid", "Ethanol"],  
"correct\_answer": "Phenol"  
},

{

"id": "51",

"subject": "Chemistry",

"question": "The number of electrons in the valence shell of a nitrogen atom is:",

"options": ["3", "5", "7", "8"],

"correct\_answer": "5"

},

{

"id": "52",

"subject": "Chemistry",

"question": "The compound with the highest dipole moment is:",

"options": ["CH4", "NH3", "H2O", "CO2"],

"correct\_answer": "H2O"

},

{

"id": "53",

"subject": "Chemistry",

"question": "The number of unpaired electrons in Fe2+ is:",

"options": ["2", "4", "6", "8"],

"correct\_answer": "4"

},

{

"id": "54",

"subject": "Chemistry",

"question": "The compound used as an antiknock agent in petrol is:",

"options": ["Pb(C2H5)4", "PbO", "PbCl2", "PbSO4"],

"correct\_answer": "Pb(C2H5)4"

},

{

"id": "55",

"subject": "Chemistry",

"question": "The number of π-bonds in C2H2 is:",

"options": ["1", "2", "3", "4"],

"correct\_answer": "2"

},

{

"id": "56",

"subject": "Chemistry",

"question": "The compound used in the preparation of TNT is:",

"options": ["Toluene", "Benzene", "Phenol", "Aniline"],

"correct\_answer": "Toluene"

},

{

"id": "57",

"subject": "Chemistry",

"question": "The number of neutrons in 614C is:",

"options": ["6", "8", "14", "20"],

"correct\_answer": "8"

},

{

"id": "58",

"subject": "Chemistry",

"question": "The compound with the highest solubility in water is:",

"options": ["CH4", "C2H5OH", "C6H6", "CCl4"],

"correct\_answer": "C2H5OH"

},

{

"id": "59",

"subject": "Chemistry",

"question": "The number of lone pairs on the central atom in XeF4 is:",

"options": ["1", "2", "3", "4"],

"correct\_answer": "2"

},

{

"id": "60",

"subject": "Chemistry",

"question": "The compound used as a refrigerant is:",

"options": ["CF4", "CH4", "CCl4", "CF2Cl2"],

"correct\_answer": "CF2Cl2"

},

{

"id": "61",

"subject": "Mathematics",

"question": "If an = 3n + 2, then the sum of the first 10 terms is:",

"options": ["(A) 170", "(B) 165", "(C) 150", "(D) 180"],

"correct\_answer": "(B) 165"

},

{

"id": "62",

"subject": "Mathematics",

"question": "The derivative of f(x) = x^3 + 5x^2 - 2x + 7 is:",

"options": ["(A) 3x^2 + 10x - 2", "(B) 3x^2 + 5x - 2", "(C) 3x^2 + 10x + 2", "(D) 3x^2 - 10x - 2"],

"correct\_answer": "(A) 3x^2 + 10x - 2"

},

{

"id": "63",

"subject": "Mathematics",

"question": "The sum of an infinite geometric series with first term 4 and common ratio 1/2 is:",

"options": ["(A) 6", "(B) 8", "(C) 10", "(D) 12"],

"correct\_answer": "(B) 8"

},

{

"id": "64",

"subject": "Mathematics",

"question": "The distance between the points (3,4) and (-1,2) is:",

"options": ["(A) 20", "(B) 18", "(C) 10", "(D) 16"],

"correct\_answer": "(C) 10"

},

{

"id": "65",

"subject": "Mathematics",

"question": "If z = 3 + 4i, then |z| is:",

"options": ["(A) 3", "(B) 4", "(C) 5", "(D) 6"],

"correct\_answer": "(C) 5"

},

{

"id": "66",

"subject": "Mathematics",

"question": "The value of sin 45° + cos 45° is:",

"options": ["(A) 2√2", "(B) 1", "(C) 2", "(D) 1/√2"],

"correct\_answer": "(A) 2√2"

},

{

"id": "67",

"subject": "Mathematics",

"question": "The quadratic equation x^2 - 5x + 6 = 0 has roots:",

"options": ["(A) 2, 3", "(B) -2, -3", "(C) 1, 5", "(D) -1, -6"],

"correct\_answer": "(A) 2, 3"

},

{

"id": "68",

"subject": "Mathematics",

"question": "If A ⊂ B, then:",

"options": ["(A) A ∩ B = B", "(B) A ∪ B = B", "(C) A ∩ B = A", "(D) A ∪ B = A"],

"correct\_answer": "(C) A ∩ B = A"

},

{

"id": "69",

"subject": "Mathematics",

"question": "The sum of the angles of a pentagon is:",

"options": ["(A) 360°", "(B) 540°", "(C) 720°", "(D) 900°"],

"correct\_answer": "(B) 540°"

},

{

"id": "70",

"subject": "Mathematics",

"question": "The derivative of sin x is:",

"options": ["(A) cos x", "(B) -cos x", "(C) -sin x", "(D) tan x"],

"correct\_answer": "(A) cos x"

},

{

"id": "71",

"subject": "Mathematics",

"question": "If the determinant of a 3×3 matrix is zero, then the matrix is:",

"options": ["(A) Singular", "(B) Invertible", "(C) Diagonal", "(D) Symmetric"],

"correct\_answer": "(A) Singular"

},

{

"id": "72",

"subject": "Mathematics",

"question": "The equation of the line passing through (2,3) with slope 5 is:",

"options": ["(A) y = 5x + 3", "(B) y - 3 = 5(x - 2)", "(C) y = 5x - 7", "(D) y + 3 = 5(x + 2)"],

"correct\_answer": "(B) y - 3 = 5(x - 2)"

},

{

"id": "73",

"subject": "Mathematics",

"question": "The sum of the first 20 natural numbers is:",

"options": ["(A) 210", "(B) 220", "(C) 190", "(D) 200"],

"correct\_answer": "(A) 210"

},

{

"id": "74",

"subject": "Mathematics",

"question": "The range of the function f(x) = x^2 - 4x + 3 is:",

"options": ["(A) (-∞, 2]", "(B) [1, ∞)", "(C) (-∞, 1]", "(D) [2, ∞)"],

"correct\_answer": "(B) [1, ∞)"

},

{

"id": "75",

"subject": "Mathematics",

"question": "The inverse of the function f(x) = 2x + 3 is:",

"options": ["(A) f^(-1)(x) = (x - 3)/2", "(B) f^(-1)(x) = (x + 3)/2", "(C) f^(-1)(x) = x/2 - 3", "(D) f^(-1)(x) = 2x - 3"],

"correct\_answer": "(A) f^(-1)(x) = (x - 3)/2"

},

{

"id": "76",

"subject": "Mathematics",

"question": "If ∫f(x)dx = x^2 + C, then f(x) is:",

"options": ["(A) x", "(B) x^2", "(C) 2x", "(D) 2x + C"],

"correct\_answer": "(C) 2x"

},

{

"id": "77",

"subject": "Mathematics",

"question": "The binomial expansion of (x + y)^3 contains:",

"options": ["(A) 2 terms", "(B) 3 terms", "(C) 4 terms", "(D) 5 terms"],

"correct\_answer": "(C) 4 terms"

},

{

"id": "78",

"subject": "Mathematics",

"question": "If tan A = 3/4, then sin A is:",

"options": ["(A) 3/5", "(B) 4/5", "(C) 5/3", "(D) 5/4"],

"correct\_answer": "(A) 3/5"

},

{

"id": "79",

"subject": "Mathematics",

"question": "The equation of a circle with center at (0,0) and radius 5 is:",

"options": ["(A) x^2 + y^2 = 5", "(B) x^2 + y^2 = 25", "(C) x^2 + y^2 - 5 = 0", "(D) x^2 + y^2 - 25 = 0"],

"correct\_answer": "(B) x^2 + y^2 = 25"

},

{

"id": "80",

"subject": "Mathematics",

"question": "If lim(x → 2) (x^2 - 4)/(x - 2) exists, its value is:",

"options": ["(A) 2", "(B) 4", "(C) 3", "(D) 6"],

"correct\_answer": "(B) 4"

},

{

"id": "81",

"subject": "Mathematics",

"question": "The roots of the equation x^2 - 7x + 10 = 0 are:",

"options": ["(A) 2, 5", "(B) -2, -5", "(C) 1, 7", "(D) -1, -10"],

"correct\_answer": "(A) 2, 5"

},

{

"id": "82",

"subject": "Mathematics",

"question": "The determinant of a 2×2 matrix [a b; c d] is:",

"options": ["(A) ad - bc", "(B) ab - cd", "(C) ac - bd", "(D) bc - ad"],

"correct\_answer": "(A) ad - bc"

},

{

"id": "83",

"subject": "Mathematics",

"question": "The sum of the roots of ax^2 + bx + c = 0 is:",

"options": ["(A) -b/a", "(B) b/a", "(C) -c/a", "(D) c/a"],

"correct\_answer": "(A) -b/a"

},

{

"id": "84",

"subject": "Mathematics",

"question": "The general solution of sin x = 0 is:",

"options": ["(A) x = nπ", "(B) x = 2nπ", "(C) x = (2n + 1)π", "(D) x = nπ/2"],

"correct\_answer": "(A) x = nπ"

},

{

"id": "85",

"subject": "Mathematics",

"question": "The function f(x) = |x| is differentiable at:",

"options": ["(A) x = 0", "(B) x > 0", "(C) x < 0", "(D) Nowhere"],

"correct\_answer": "(B) x > 0"

},

{

"id": "86",

"subject": "Mathematics",

"question": "The roots of the equation x^2 - 7x + 10 = 0 are:",

"options": ["(A) 2, 5", "(B) -2, -5", "(C) 1, 7", "(D) -1, -10"],

"correct\_answer": "(A) 2, 5"

},

{

"id": "87",

"subject": "Mathematics",

"question": "The determinant of a 2×2 matrix [a b; c d] is:",

"options": ["(A) ad - bc", "(B) ab - cd", "(C) ac - bd", "(D) bc - ad"],

"correct\_answer": "(A) ad - bc"

},

{

"id": "88",

"subject": "Mathematics",

"question": "The sum of the roots of ax^2 + bx + c = 0 is:",

"options": ["(A) -b/a", "(B) b/a", "(C) -c/a", "(D) c/a"],

"correct\_answer": "(A) -b/a"

},

{

"id": "89",

"subject": "Mathematics",

"question": "The general solution of sin x = 0 is:",

"options": ["(A) x = nπ", "(B) x = 2nπ", "(C) x = (2n + 1)π", "(D) x = nπ/2"],

"correct\_answer": "(A) x = nπ"

},

{

"id": "90",

"subject": "Mathematics",

"question": "The function f(x) = |x| is differentiable at:",

"options": ["(A) x = 0", "(B) x > 0", "(C) x < 0", "(D) Nowhere"],

"correct\_answer": "(B) x > 0"

}

]