

## ECAT Pre General Science Online Test

| Sr | Questions                                                                                                                                         | Answers Choice                                                                                                                                                                      |
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| 1  | The conventional current is the name given to current due to flow of                                                                              | A. Positrons<br>B. Positive charges<br>C. Negative charges<br>D. Both A and C<br>E. None of these                                                                                   |
| 2  | In case of metallic conductors, the charge carriers are                                                                                           | A. Protons<br>B. Electrons<br>C. Antiprotons<br>D. Positrons<br>E. Both A and B                                                                                                     |
| 3  | The results of spectra obtained by Blamer were expressed in 1896 by                                                                               | A. Bohr<br>B. Rydberg<br>C. Planck<br>D. Rutherford<br>E. Coulomb                                                                                                                   |
| 4  | The range of wavelengths of colours in the visible colours is                                                                                     | A. 140 nm to 456 nm<br>B. 10 nm to 56 nm<br>C. 410 nm to 656 nm<br>D. 910 nm to 956 nm<br>E. None of these                                                                          |
| 5  | Atoms of hydrogen gas can be excited by passing electric current through it when the gas is filled into the discharge tube at a pressure which is | A. Less than atmospheric pressure<br>B. Much less than atmospheric pressure<br>C. Greater than atmospheric pressure<br>D. Much greater than atmospheric pressure<br>E. Both C and D |
| 6  | Field lines are closer to each other in the region where the field is                                                                             | A. Stronger<br>B. Weaker<br>C. Much weaker<br>D. Absent<br>E. None of these                                                                                                         |
| 7  | Electric field lines emerge from the charges in                                                                                                   | A. One dimension<br>B. Two dimensions<br>C. Three dimensions<br>D. Four dimensions<br>E. None of these                                                                              |
| 8  | The value of relative permittivity of different dielectrics are                                                                                   | A. Equal<br>B. Different<br>C. Greater than one<br>D. Smaller than one<br>E. Both B and C                                                                                           |
| 9  | By placing a dielectric in between the charges, the electrostatic force between them                                                              | A. Is always reduced<br>B. Is always increased<br>C. Is not affected<br>D. Is increased one million times<br>E. None of these                                                       |
| 10 | Electric lines of force                                                                                                                           | A. Intersect each other<br>B. Are always parallel<br>C. Are always anti-parallel<br>D. Never intersect<br>E. None of these                                                          |
| 11 | The electric field lines start from                                                                                                               | A. Positive charge<br>B. Negative charge<br>C. Either A or B<br>D. Neutron<br>E. An atom                                                                                            |
| 12 | The SI unit of charge is                                                                                                                          | A. Ampere<br>B. Watt<br>C. Coulomb<br>D. Volt<br>E. Joule                                                                                                                           |

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| 13 | The intensity at a point due to a charge is inversely proportional to                                                                 | A. Amount of charge<br>B. Size of the charge<br>C. Distance between charge and the point<br>D. Square of the distance from the charge<br>E. None of these                                                                  |
| 14 | Electric intensity at a place due to a charged conductor is a                                                                         | A. Scalar quantity<br>B. Vector quantity<br>C. Semi vector and semi scalar<br>D. Dimensionless quantity<br>E. Both A and D are true                                                                                        |
| 15 | Electric field strength is defined as                                                                                                 | A. Work done on unit charge<br>B. Force exerted on unit charge<br>C. Distance covered by unit charge<br>D. Power exerted by unit charge<br>E. None of these                                                                |
| 16 | Referring to above figure, due to change in current in the coil P, the change in magnetic flux                                        | A. Is associated with coil P<br>B. Is associated with coil S<br>C. Causes and induced current in coil S<br>D. All of these<br>E. None of these                                                                             |
| 17 | Referring to above figure, current in coil P falls from its maximum value to zero                                                     | A. At the instant the switch is closed<br>B. At the instant the switch is opened<br>C. When switch is kept open<br>D. When switch is kept closed<br>E. None of these                                                       |
| 18 | Referring to above figure, current in the coil P grows from zero to its maximum value                                                 | A. At the instant the switch is closed<br>B. At the instant the switch is opened<br>C. When switch is kept open<br>D. All of above<br>E. Neither of above                                                                  |
| 19 | A coil of constant area is placed in a constant magnetic field. An induced current is produced in the coil when                       | A. The coil is distorted<br>B. The coil is rotated<br>C. The coil is neither distorted nor rotated<br>D. Both A and B<br>E. None of these                                                                                  |
| 20 | Instead of moving the coil towards a magnet, the magnet is moved towards the coil with the same speed. The galvanometer shows current | A. Of same magnitude in the same direction<br>B. Of different magnitude in the same direction<br>C. Of same magnitude but in opposite direction<br>D. Of different magnitude in the opposite direction<br>E. None of these |
| 21 | When there is no relative motion between the magnet and coil, the galvanometer indicated                                              | A. No current in the circuit<br>B. An increasing current<br>C. A decreasing current<br>D. A constant current<br>E. Either B or C                                                                                           |
| 22 | The magnitude of induced emf depends upon the                                                                                         | A. Rate of decrease of magnetic field<br>B. Rate of change of magnetic field<br>C. Rate of increase of magnetic flux<br>D. Constancy of magnetic field<br>E. None of these                                                 |
| 23 | Michael Faraday and Joseph Henry belong respectively to                                                                               | A. USA and England<br>B. England and France<br>C. England and USA<br>D. USA and France<br>E. None of these                                                                                                                 |
| 24 | In magnet-coil experiment, emf can be produced by                                                                                     | A. Keeping the coil stationary and moving the magnet<br>B. Keeping the magnet stationary and moving<br>C. Relative motion of the loop and magnet<br>D. Any one of above<br>E. All above                                    |
| 25 | The induced current in the loop can be Increased by                                                                                   | A. Using a stronger magnetic field<br>B. Moving the loop faster<br>C. Replacing the loop by a coil of many turns<br>D. All above<br>E. Both A and B                                                                        |

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| 26 | The body oscillates due to _____ accelerates and overshoots the rest position due to _____ | A. Applied force, Inertia<br>B. Restoring force, Friction<br>C. Frictional force, Inertia<br>D. Restoring force, Inertia |
| 27 | Amplitude in SHM is equivalent to _____ in circular motion                                 | A. Diameter<br>B. Radius<br>C. Circumference<br>D. None of these                                                         |
| 28 | The graph showing the variation of displacement with time is a                             | A. Sine curve<br>B. Straight line<br>C. Parabola<br>D. None of these                                                     |
| 29 | When a body is vibrating, the displacement from mean position                              | A. Increases with time<br>B. Decreases with time<br>C. Changes with time<br>D. None of these                             |
| 30 | The restoring force is _____ and opposite to the applied force within _____                | A. Equal, Elastic limit<br>B. Different, The walls of the laboratory<br>C. Different, Elastic limit<br>D. None of these  |