Program: TE Mechanical Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester V

Course Code: MEC502 Course Code: Mechanical Measurements and Control (MMC)

Time: 1 hour Max. Marks: 50

Note: All Questions are compulsory and carry equal marks.

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| Q.1 | In **a** mechanicalsystem, systematic error is produced by |
| Option: a | Frictionalloading |
| Option: b | Inertial loading |
| Option: c | Backlash |
| Option: d | Overloading |
|  |  |
| Q.2 | If the pointer and scale is used to show the reading on display then type of instrument is |
| Option: a | Analog |
| Option: b | Digital |
| Option: c | Active |
| Option: d | Passive |
|  |  |
| Q.3 | Spring balance is which type of instrument |
| Option: a | Balance |
| Option: b | Deflection |
| Option: c | Digital |
| Option: d | Active |
|  |  |
| Q.4 | The process of comparing measured value with standard is known as |
| Option: a | Accuracy |
| Option: b | Precision |
| Option: c | Sensitivity |
| Option: d | Calibration |
|  |  |
| Q.5 | On a 0- 30 cm scale, the difference between 0 and 30 is known as |
| Option: a | Range |
| Option: b | Drift |
| Option: c | Precision |
| Option: d | Span |
|  |  |
| Q.6 | In LVDT change in displacement will produce |
| Option: a | Resistance change |
| Option: b | Capacitance change |
| Option: c | Inductance change |
| Option: d | Length |
|  |  |
| Q.7 | In capacitive transducer capacitance does not depend on |
| Option: a | Permittivity of medium |
| Option: b | Overlap area between plates |
| Option: c | Conductivity of material |
| Option: d | Distance between plates |
|  |  |
| Q.8 | In LVDT number of coils of secondary coils are |
| Option: a | Same in number |
| Option: b | Different |
| Option: c | Can’t predict |
| Option: d | Depend on load |
|  |  |
| Q.9 | If more than two strain gauges are used for measurement then it is called as |
| Option: a | Potentiometer |
| Option: b | LVDT |
| Option: c | Capacitive transducer |
| Option: d | Strain gauge rosette |
|  |  |
| Q.10 | Centrifugal tachometer is used for measurement of |
| Option: a | Distance |
| Option: b | Angular velocity |
| Option: c | Pressure |
| Option: d | Flow |
|  |  |
| Q.11 | In Root locus method poles are represented by |
| Option: a | O |
| Option: b | × |
| Option: c | 1 |
| Option: d | # |
|  |  |
| Q.12 | G(s)H(s)=( 120 ÷(s+2)(s+10)), then type of system is |
| Option: a | Type one |
| Option: b | Type two |
| Option: c | Type zero |
| Option: d | Type three |
|  |  |
| Q.13 | The low pressure is measured in terms of |
| Option: a | Bar |
| Option: b | Pascal |
| Option: c | N per meter square |
| Option: d | Tor |
|  |  |
| Q.14 | In magnetic flow meter flowing liquid is |
| Option: a | Conductor |
| Option: b | Insulator |
| Option: c | Non conductor |
| Option: d | Semiconductor |
|  |  |
| Q.15 | If two blocks are in parallel then in block diagram reduction result will be |
| Option: a | Product of two blocks |
| Option: b | Summation of two blocks |
| Option: c | Subtraction of two block |
| Option: d | Division of two blocks |
|  |  |
| Q.16 | Electric oven is an example of |
| Option: a | Close loop control system |
| Option: b | Feedback system |
| Option: c | Feed forward system |
| Option: d | Open loop system |
|  |  |
| Q.17 | Rise time in time domain specifications is defined as |
| Option: a | Time required to reach maximum value |
| Option: b | Time required to reach 100% of output value |
| Option: c | Time required to reach and stay within specified band |
| Option: d | Time require to come output at instant |
|  |  |
| Q.18 | Which of the following is characteristics equation |
| Option: a | 1+G(s)H(s)=0 |
| Option: b | 1-G(s)H(s)=0 |
| Option: c | (1+G(s))÷H(s)=0 |
| Option: d | 1+G(s)H(s)=1 |
|  |  |
| Q.19 | The cost of ……..System is more |
| Option: a | Open loop |
| Option: b | Close loop |
| Option: c | Simple |
| Option: d | Manual |
|  |  |
| Q.20 | The following is not comes under signal conditioning |
| Option: a | Filtering |
| Option: b | Amplification |
| Option: c | Modulation |
| Option: d | Balancing |
|  |  |
| Q.21 | Which of the following is not a temperature compensation method |
| Option: a | Dummy gauge |
| Option: b | Self-compensation |
| Option: c | Series compensation |
| Option: d | Poisson's method |
|  |  |
| Q.22 | Bourdon pressure gauge used to measure |
| Option: a | Low pressure |
| Option: b | Medium pressure |
| Option: c | High pressure |
| Option: d | Differential pressure |
|  |  |
| Q.23 | The mounting of rotameter is |
| Option: a | Vertical |
| Option: b | Horizontal |
| Option: c | Inclined |
| Option: d | In any direction |
|  |  |
| Q.24 | In RTD resistance change and temperature is |
| Option: a | Inversely proportional |
| Option: b | Directly proportional |
| Option: c | Does not depend |
| Option: d | Can’t say |
|  |  |
| Q.25 | In Bourdons pressure gauge instrument, which element is primary sensing element |
| Option: a | Sector |
| Option: b | Pointer and scale |
| Option: c | Pinion |
| Option: d | C tube |
|  |  |