End Term Practical Examination: 2017-18

Subject: Mechanics of Solids Lab **Maximum Marks: 45**

Maximum time: 100 Mins.

Q.1 Define ductility and write four examples of ductile materials.

Q.2 What is Hook's law?

Q.3 Define the following terms in connection with tensile test

(i) Limit of Proportionality (ii) Elastic limit (iii) Yeild point

Q. 4 Define toughness.

Q.5 What is impact strength?

Q.6 Write two difference in Izod and Charpy test.

Q.7 What is hardness.

Q.8 What is the importance of hardness test?

Q.9 What is the type hardness tests. Write the names hardness tests.

Q.10 Arrange the following four material in ascending order of their hardness

Quartz, Topaz, Corundum, Diamond

Q.11 On which steel you have performed tension test? What is its carbon content?

Q.12 The Erickson cupping test is used to determine..... properties of material?

Q.13 Define sheet metal forming process.

Q. 14Define stiffness & plasticity of material.

Q.15 What is resilience? How is it different from proof resilience and toughness?

Q.16 What is the necessity of making a notch in impact test specimen?

Q.17 what general information are obtained from tensile test regarding the properties of a material

Q. 18 Which will have a higher strength: a small specimen or a full size member made of the same material and why?

Q. 19 What is the difference between Gauge Length &actual length?

Q.20 Why is the machine named "UTM"?

Q. 21 Define the term "strain hardening"?

Q. 22 What is maximum capacity of load & maximum stroke of UTM.

Q. 23 Write the various type of test performed on UTM.

Q. 24 Write specification of the pin on the wear testing machine.

Q. 25 What is the hardness of rotating disc which is mounted in pin on the wear testing machine?

Q. 26 What type of scales & indentors used in Rockwell hardness testing machine?

Q. 27 What is mean of 60HRC, 50HRB &minor load in Rockwell hardness tester?

Q.28 What is the specification of Brinell hardness testing machine?

Q. 29 Write the formula for the brinell hardness number with abbreviation.

Q. 30 Write the specification of impact testing machine.

Q. 31 Write the full measurement of specimens used in impact testing machine & make the diagram.

Q. 32 What is the technical data of Erichsen cupping machine?

Q. 33 What type mechanical property determine in Erichsen cupping machine & define it.

Q. 34 What shows Erichsen number?

Q. 35 Write the torsion equation with abbreviation.

Q. 36 What is the torque range torsion testing machine & tell the various range of scale in machine.

Q. 37 Define Strength of materials, stress & strain.

Q. 38 What is poison's ratio? Tell the range it.

Q. 39 Define longitudinal strain and lateral (transverse) strain

Q. 40 Define elastic constants E, K & G.

Q. 41 What is Yield Strength?

Q.42 What is calibration?

Q.43 Write the difference between malleability & ductility

Q.44 what is the difference between Rockwell & brinell hardness?

Q.45 Write the safety& precaution in Impact testing machine