KHULNA UNIVERSITY OF ENGINEERING & TECHNOLOGY

Department of Textile Engineering

B. Sc. Engineering 2nd Year 2nd Term Examination, 2017

EE 2221

(Instrumentation and Electrical Control)

Time: 3 Hours | Total Marks: 210

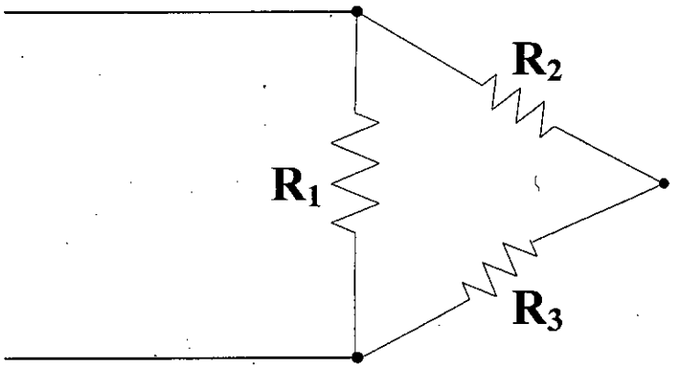
N.B.: i) Answer any THREE questions from each section in separate scripts.
ii) Figures in the right margin indicate full marks.
iii) Assume reasonable data if missing any.

SECTION-A

1(a) Define electrical instrumentation. Derive the torque equation of PMMC and show that the deflection is directly proportional to the current passing through the meter. 08

1(b) Define relative limiting error. Derive the relative limiting error formula for sum of two components and difference of two components. 10

1(c) Determine the magnitude and limiting error in Ohm for the following arrangement as shown in the figure. 07



$R_1 = 37\ \Omega \pm 5\%$

$R_2 = 75\ \Omega \pm 5\%$

$R_3 = 50\ \Omega \pm 5\%$

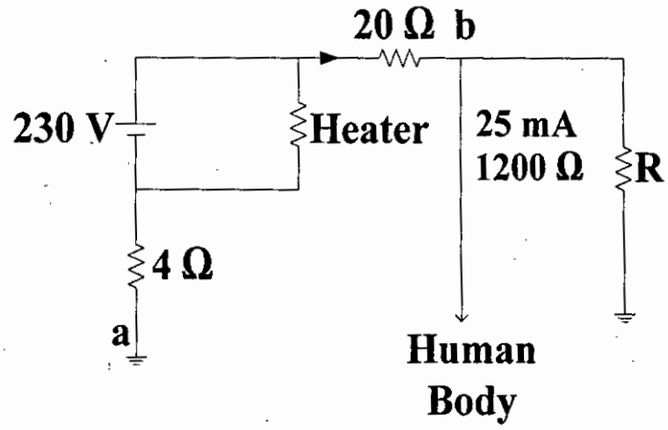
1(d) Classify resistance with specifying their ranges of values. Describe a method for measurement of low resistance in which there is no errorness problem of lead resistance. 10

2(a) Write down the limitations of measuring resistance with Wheatstone bridge. Show that the maximum bridge sensitivity is $\frac{1}{4}th$ that of S_V and E. 10

2(b) Describe how an unknown capacitance can be measured with the help of De-sauty bridge. What are the limitations of this bridge and also draw the modified form of De-sauty's bridge to overcome its limitations. 10

2(c) What are the factors that influence earth resistance? Explain a method to calculate the earth resistance. 07

2(d) On a 230 V supply a fault having a resistance of 20 Ω develops between the unearthed ends of the winding of an electric heater and the frame as shown in the figure. If the resistance of the substation electrode is 4Ω that of human body 1200 Ω and the safe maximum resistance is 25 mA, what is the safe maximum resistance of the consumer's earth electrode? 08



3(a) Describe the operation of LVDT with proper diagram. Mention the advantages and disadvantages of it. 10

3(b) Define strain gauge. A semiconductor gauge having a resistance of 1000 Ω and a gauge factor of -133 is subjected to a compressive strain of 500 microstrain. Calculate the new value of resistance of the gauge. 07

3(c) Define and classify transducer. Write down the working principle of a photo emissive transducer. 08

3(d) Describe smoke detector and thermistor with proper diagram. 10

4(a) Define data acquisition system. Describe the digital data acquisition system with block diagram representation. 15

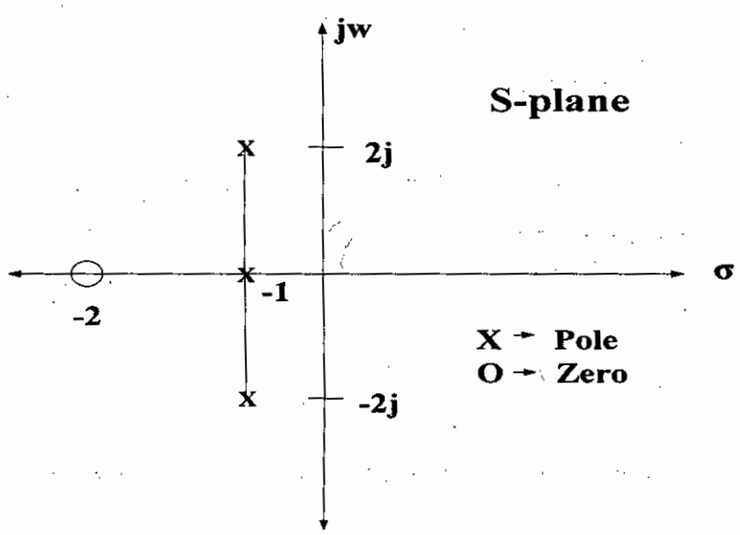
4(b) Write down the differences between thermistor and thermo couples. 10

4(c) Explain piezoelectric effect with proper diagram. Mention some advantages and disadvantages of piezoelectric transducer along with its applications. 10

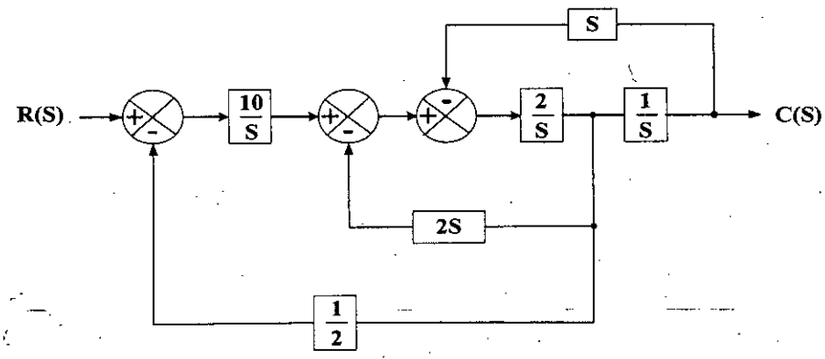
SECTION-B

5(a) Define control system with an example. Explain open loop and closed loop control system with basic block diagram representation. 10

5(b) For the given S-plane as shown in the figure, determine the differential equation that represents the system. 10

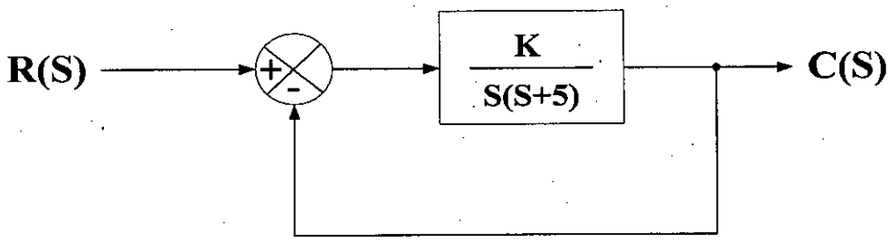


5(c) A system is represented by the block diagram as shown in the figure. Reduce the block diagram to a single transfer function block. Find the poles and zeros of this system and comment on the system stability. Also write the mathematical model for the system in differential equation form. 15

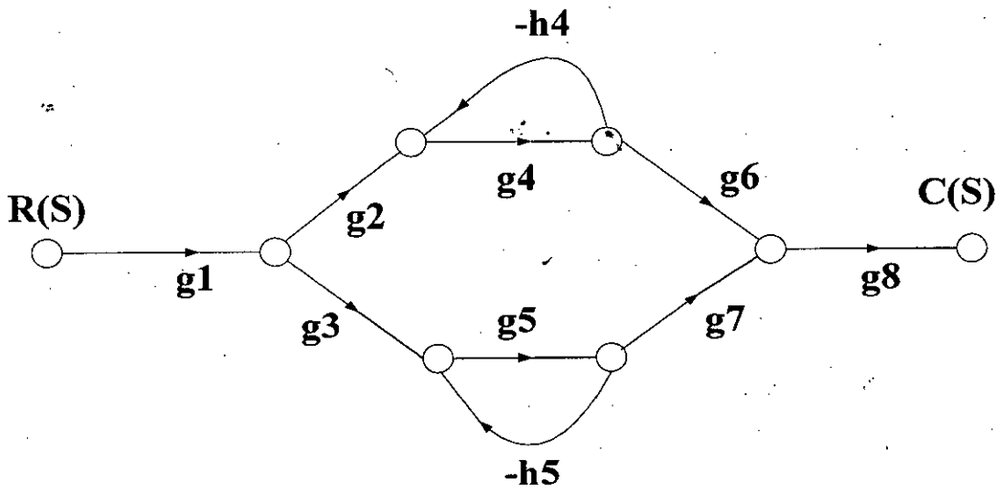


6(a) Show that transient response of a system is given by $C_{tr} = Ae^{6t}(wd^t + \phi)$, when all roots are complex. 13

6(b) Design the value of gain K for the feedback system in the figure, so that the system will response with a 5% overshoot. 10



6(c) For the SFG as shown in the figure, find the overall transmittance of the system. 12



7(a) Define damping ratio and undamped natural frequency. 05

7(b) Define underdamped, overdamped, critically damped, undamped and unstable system with their necessary pole-zero maps and system response. Also mention their typical value of damping ratio. 15

7(c) A system is defined by the following transfer function 15

$$\frac{P(S)}{Q(S)} = \frac{10}{4S^2 + 13S + 20}$$

Find the damping ratio, damped natural frequency, damping coefficient, undamped natural frequency, the time at which peak overshoot occur, the value of peak overshoot, scatteling time and time constant of the system. Comment on the system stability and type of damping.

8(a) Characteristic equation of a system is given by 10

$$Q(S) = S^4 + S^3 + 2S^2 + 2S + 5$$

Apply Routh's stability criterion to determine whether the system is stable or unstable. Find the number of roots in left half plane, right half plane and imaginary axis.

8(b) Define industrial automatic controller with its block diagram representation and classify industrial controllers. 10

8(c) What is PLC? Draw the block diagram of typical PLC. 07

8(d) Define microprocessor and microcontroller. Draw the bus architecture of 8085 microprocessor. 08

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KHULNA UNIVERSITY OF ENGINEERING &TECHNOLOGY

Department of Textile Engineering

B. Sc. Engineering 2nd Year 2ndTerm Examination, 2017

TE-2203

(Fabric Manufacturing Engineering-I)

Time: 3 Hours Total Marks: 210

N.B.: i) Answer any THREE questions from each section in separate scripts.
ii) Figures in the right margin indicate full marks.
iii) Assume reasonable data if missing any.

SECTION-A

1(a)	Discuss different types of yarn faults.	08
1(b)	Why yarn preparation is necessary? Mention the features of a good warp.	12
1(c)	Present the flowchart of weaving.	07
1(d)	The winding drum of a high speed cone winder having a diameter of 3.5 inch makes 2500 rpm. The actual amount of yarn wound in a day was found to be 879200 yds. Find out efficiency of that machine.	08
2(a)	Differentiate between precision and non-precision winding.	05
2(b)	Describe the auxiliary functions of winding.	06
2(c)	Briefly describe automatic tensioner.	10
2(d)	Sketch different types of yarn guides.	04
2(e)	A quantity of $30^{'s}$ warp yarn is to be wound on 180 cones on a high speed cone winder sothat each cone should contain 65000 yds. of yarn. The rate paid for winding is 20 dollars per 100 lb. Find out the weight of yarn wound and the amount the winder is to be paid for winding the yarn.	10
3(a)	Show the warping process flow-chart with figure.	07
3(b)	Describe the components of head stock.	08
3(c)	Establish the relationship between the taper angle and amount of yarn.	10
3(d)	A super speed beam warpers with a warping speed of 750 yds/min is preparing a standard way of 450 end. If the yarn count is $32^{'s}$ and overall efficiency is 90%, then calculate the followings- (The length of warp on each beam is required to be 40000 yds., ignore wastages) i) Total length of warp produced per day of 12 hours. ii) No. of beam produced per day of 12 hours. iii) Total weight of yarn in kg warped per drum. iv) Weight of yarn on a beam in kg.	10

4(a) Write the functions and examples of the following size ingredients- 08
i) Softener ii) Hygroscopic agent iii) Anti-mildew agent iv) Tinting agent

4(b) Draw the slasher sizing machine with proper labeling. 06

4(c) Describe hot air drying method with advantages and disadvantages. 10

4(d) Describe the advantages of pressure cooker mixing over ordinary size cooking. 04

4(e) 50 Tex cotton yarn has add-on of 10%. If the moisture regain of the warp is 11% then determine the oven-dry mass of the size added per kg of the unsized warp. 07

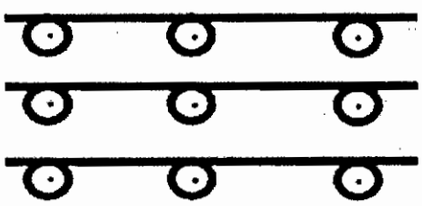
SECTION-B

5(a) What are the advantages of self-acting needle? 06

5(b) Draw and describe the following terms- 12

i) Face and back loop
ii) Kink of yarn and knitted stitch
iii) Needle pitch
iv) Verge of cylinder

5(c) Find out the stitch density and number of needle of following design if machine dia. is 20 inch. 08



5(d) Write short notes on: 09

i) Truck of circular weft knitted fabric
ii) United needle
iii) Needle carrier for circular knitting machine

6(a) Describe different butts and length positions of weft knitted machine. 12

6(b) Describe the knitting action of latch needle with neat sketch. 18

6(c) What is meant by sinker? Draw a sinker with proper labeling. 05

7(a) What is meant by single jersey derivatives? Mention 04 single jersey derivatives' structure. 08

7(b) Describe the following design with proper Lapping diagram: 12

i) 2x1 Rib
ii) 3x1 Rib
iii) 6x3 Rib
iv) 3x2 Rib

7(c)	Describe popcorn design with Lapping diagram, cam arrangement and needle arrangement.	08
7(d)	What are the differences between fabric length machine and garments length machine?	07
8(a)	Classify looms.	10
8(b)	Define loom, drawing-in, and weft replenishment.	06
8(c)	Describe the motions of loom.	09
8(d)	The construction of a woven fabric is $\frac{30x40}{70x60} x48''$ Find out the weight of 500 yds.Whose warp and weft crimp is 10% and 6% respectively.	10

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KHULNA UNIVERSITY OF ENGINEERING &TECHNOLOGY

Department of Textile Engineering

B. Sc. Engineering 2nd Year 2ndTerm Examination, 2017

TE-2227

(Mechanics of Textile Structures)

Time: 3 Hours Total Marks: 210

N.B.: i) Answer any THREE questions from each section in separate scripts.
ii) Figures in the right margin indicate full marks.
iii) Assume reasonable data if missing any.

SECTION-A

1(a)	Define real yarn and idealized yarn.	04
1(b)	What are the assumptions taken for idealized helical geometry?	06
1(c)	From idealized yarn geometry, prove thattan $\alpha = 0.0112\, V_y^{\frac{1}{2}}\tau$, Where the symbols have their usual meanings.	10
1(d)	Discuss the concentrating features and disturbing features that conflict the idealized helical geometry and idealized packing of fibers in yarn.	10
1(e)	Define open packing and close packing of fiber.	05
2(a)	Show that$R_y = \tan^2\frac{\alpha}{2}$, where R_y = Retraction factor and α = Twist angle.	10
2(b)	Establish the relationship between yarn diameter and direct count of yarn.	10
2(c)	Discuss the problems caused by static electricity and their solutions.	10
2(d)	Find out the Schwarz correction (K) of a polyester yarn having yarn count 72 Denier and total number of filaments are 36.	05
3(a)	Prove that, $\frac{\sqrt{C_1}}{n_2} + \frac{\sqrt{C_2}}{n_1} = 0.27e\left(\frac{1}{\sqrt{N_1}} + \frac{1}{\sqrt{N_2}}\right)$ where the symbols have their usual meanings.	10
3(b)	Establish the equation of crimp interchange.	05
3(c)	For weft jamming, show that $h_2^2 = D^2 - p_2^2$ where the symbols have their usual meanings.	10
3(d)	Cotton sheeting of 30 tex warp and 40 tex weft of 28 ends per cm and 22 picks per cm having a modular length$l_1 = 0.05\, cm$. Calculate all other necessary parameters. (Assume ρ for cotton).	10
4(a)	Discuss the experimental set up and calculations involved in Riding's Experiment for measuring migration of continuous filament yarn.	14
4(b)	Describe various hypothesis of charge transfer.	15
4(c)	Show the relationship between following parameters and fiber migration: i)Staple length ii) Tension of fiber iii) Mode of spinning.	06

SECTION-B

5(a)	Show a schematic diagram of a SEM with brief description.	10
5(b)	Define torsional rigidity. Prove that specific torsional rigidity = $\frac{\eta\varepsilon}{\rho}$, where the symbols have their usual meanings.	13
5(c)	Breaking twist of cotton fiber is 60 and diameter of it is 0.017 mm. Find out the BTA of it.	03
5(d)	Show effect of water on fiber.	04
5(e)	State the effect of lubricant on frictional force.	05
6(a)	What are the relations between fiber properties and fiber structures?	05
6(b)	Write short notes on i) Bi-refringence ii) Refractive index.	05
6(c)	Define flexural rigidity. Prove that specific flexural rigidity = $\frac{1}{4\pi}\frac{\eta\varepsilon}{\rho}$	13
6(d)	Discuss the analysis of crystallinity of fiber by X-ray diffraction.	12
7(a)	Show infrared absorption spectrum of a textile fiber mentioning the advantages and disadvantages of it.	15
7(b)	Show effect of fiber length, fineness, strength and moisture on yarn strength.	08
7(c)	Compare the X-ray diffraction method and infra-red radiation method for investigating the fiber structure.	12
8(a)	Write short notes on i) Heat of wetting ii) Glass transition temperature.	06
8(b)	Establish that, the spirality of a weft knitted fabric depends on the number of feeders of a machine with the help of an equation.	12
8(c)	Explain the stress-strain curve where a load is applied on a fiber.	10
8(d)	Discuss the factors which have influences on lusture.	07

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KHULNA UNIVERSITY OF ENGINEERING &TECHNOLOGY

Department of Textile Engineering

B. Sc. Engineering 2nd Year 2ndTerm Examination, 2017

TE-2213

(Textile Testing and Quality Control-I)

Time: 3 Hours Total Marks: 210

N.B.: i) Answer any THREE questions from each section in separate scripts.
ii) Figures in the right margin indicate full marks.
iii) Assume reasonable data if missing any.

SECTION-A

1(a)	Define the following terms: i)Sample ii) Sampling iii) Population	06
1(b)	Describe the methods of sampling.	10
1(c)	What is zoning? Explain the zoning technique for raw cotton sampling.	15
1(d)	Only 20 mg of cotton sample is used from 500 lb of cotton fibers. Estimate, how bulk of fibers has to represent the bale.	04
2(a)	Define the terms: i) Moisture regain ii) Moisture content Establish the relation between moisture regain and moisture content.	10
2(b)	What is CIW? Mention the importance of CIW in textile fiber business.	05
2(c)	Calculate the CIW of 70/30 Cotton/ Nylon if oven dry weight of consignment is 150 kg.	05
2(d)	Mention MR% and MC% of the following fibers: Viscose, Cotton, Nylon, Polyester, Jute, and Wool	06
2(e)	Show the effects of moisture on textiles.	04
2(f)	The wt. of cotton sample was found to be 150 grain. When heated at 105°C for 2 hours, the wt. of sample was reduced to 100 grains. Find out the MR% and MC% of the sample.	05
3(a)	What is irregularity? Mention the yarn imperfections.	04
3(b)	Prove that, CV% = 1.25xPMD. State the periodic variation.	08
3(c)	Pont out the causes and effect of irregularity.	08
3(d)	Write down most important methods for measuring irregularity. Tabulate the merits and demerits of USTER tester.	10
3(e)	Make a comparative statement between optical and capacitance methods.	05

4(a)	What is count? Explain the yarn numbering system.	07
4(b)	Mention the length unit and weight unit for the following system: Tex, Denier, Jute count, Cotton count, Metric count, Linen, and Worsted count.	07
4(c)	Define the following systems: i)Ne ii) Militex iii) Nm iv) Jute count	06
4(d)	If 240 yards of cotton yarn weigh 40 grains, what is the count of the yarn? Also convert Ne into Tex, Nm and Jute count.	07
4(e)	"Tex is a universal count system"- Explain this statement.	04
4(f)	A 3-fold cotton yarn composed of 8^S, 24^S and a thread of unknown count was found to be of 4^S cotton. Calculate the count of unknown thread.	04

SECTION-B

5(a)	Show importance of Testing in Textile Industries.	05
5(b)	Write short notes on I)Blue Wool ii) Light sources used in Textile testing	08
5(c)	Write about Grey Scales and multifiber fabric.	10
5(d)	Describe dimensional stability test of a fabric.	12
6(a)	Explain the following terms: i)Crimp% ii) Crimp ratio iii) Take-up%	12
6(b)	Show the relation between crimp% and take-up%.	12
6(c)	Describe the necessity of a crimp control of measure of fabric.	11
7(a)	Discuss about testing atmosphere.	05
7(b)	What is CSP? Describe a process of measuring single yarn strength.	12
7(c)	Write short notes on: i) CRL ii) CRE	08
7(d)	Show a process of measuring fabric thickness.	10
8(a)	What is crease recovery? Describe a standard crease recovery test.	12
8(b)	Define shear. State the process of measuring shear of a fabric.	12
8(c)	What is stiffness?	03
8(d)	Show a format of a lab report.	08

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KHULNA UNIVERSITY OF ENGINEERING &TECHNOLOGY

Department of Textile Engineering

B. Sc. Engineering 2nd Year 2ndTerm Examination, 2017

ME-2221

(Solid Mechanics and Machine Design)

Time: 3 Hours Total Marks: 210

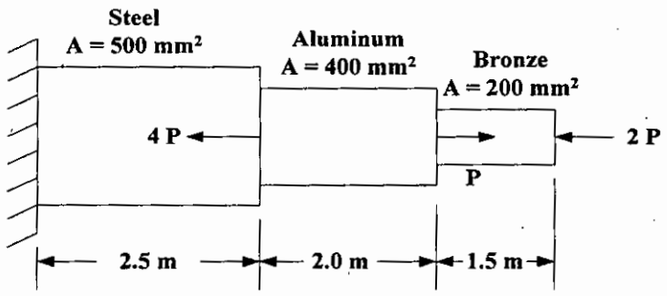
N.B.: i) Answer any THREE questions from each section in separate scripts.
ii) Figures in the right margin indicate full marks.
iii) Assume reasonable data if missing any.

SECTION-A

1(a) State Hook's law for axial deformation and also mention its limitation. 06

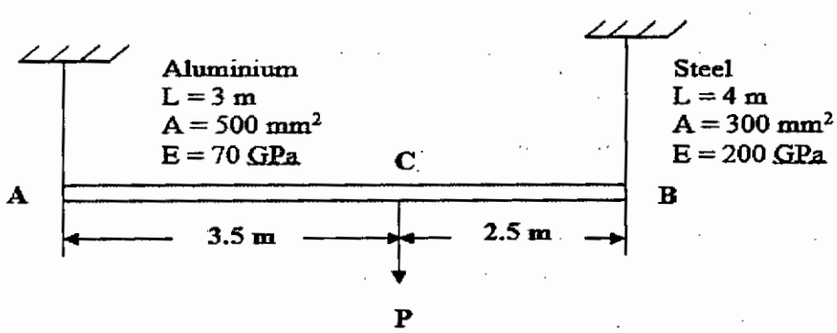
1(b) Show that the tangential stress in a thin walled cylindrical shell of diameter D and wall thickness t subjected to internal pressure P are given by $\sigma_t = \frac{PD}{2t}$ 12

1(c) An aluminum rod is rigidly attached between a steel rod and a bronze rod. Axial loads are applied at the positions indicated. Find the maximum value of P that will not exceed a stress in steel of 140 MPa or in bronze of 100 MPa. 17

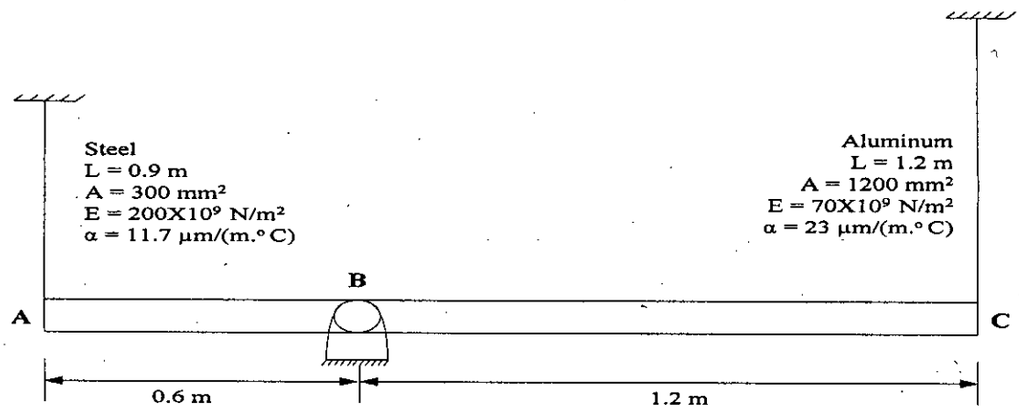


2(a) Explain the following terms- 10
i) Proportional limit and elastic limit ii) Poisson's ratio iii) Yield strength and
iv) Rupture strength.

2(b) The rigid bar AB attached to two vertical rods as shown in figure is horizontal before the load P is applied. Determine the vertical movement of P if it's magnitude is 50 kN. 13

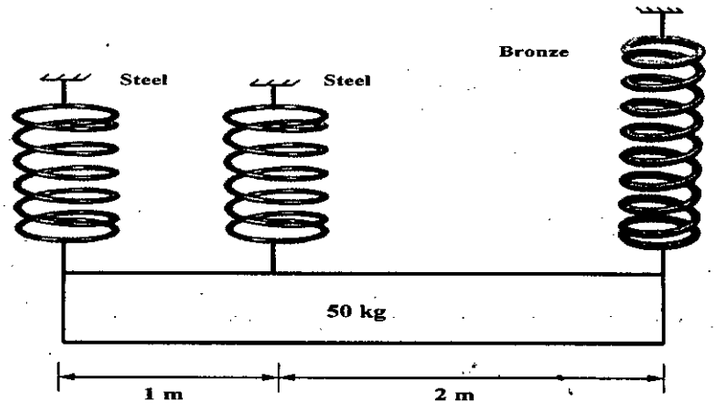


2(c) The rigid bar ABC in figure below is pinned at B and attached to the two vertical rods, the bar is horizontal and the vertical rods are stress free. Determine the stress in the aluminium rod if the temperature of the steel rod is decreased by 40° C. Neglect the weight of the bar ABC 12

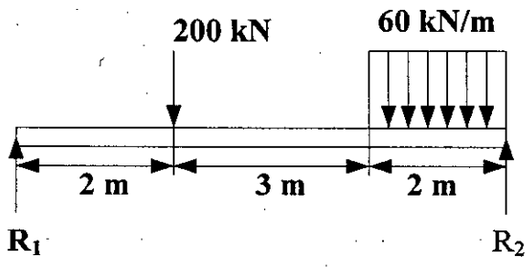


3(a) Derive the maximum torsional stress for solid shaft mentioning appropriate assumptions. 16

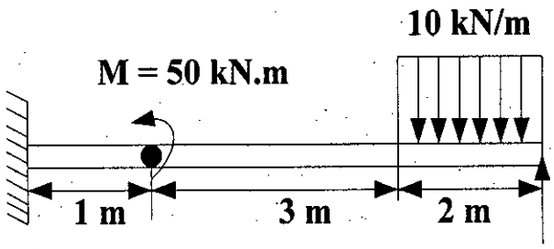
3(b) As shown in figure below, a homogeneous 50-kg rigid block is suspended by the three springs whose lower ends were originally at the same level. Each steel spring has 24 turns of 10 mm diameter wire on a mean diameter of 100 mm, and G = 8 GPa. The bronze spring has 48 turns of 20 mm diameter wire on a mean diameter of 150 mm, and G = 42 GPa. Compute the maximum shearing stress in each spring. 19



4(a) Write shear and moment equations for the simple supported beam carrying a distributed load and a point load as shown in the figure. Also draw shear and moment diagrams specifying value at all change of loading positions and at points of zero shear. Neglect the mass of beam. 18

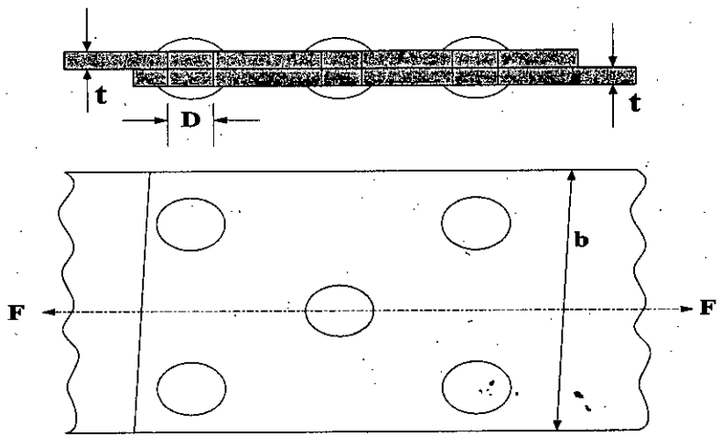


4(b) Without writing shear and moment equations, draw the shear and moment diagrams for the cantilever beam acted upon by uniformly distributed load and couple as shown in figure. 17



SECTION-B

5(a) (i) For the connection shown in figure, set up strength equations representing the various methods by which it might fail. Neglect bending effects (ii) Design this connection for a load of 2500 lb. Both plates and rivets are of AISI C1020, as rolled. The load is repeated and reversed with mild shock, makes the connection equally strong on the basis of yield strengths in tension, shear, and compression. 17



5(b) A shaft with a normal diameter of 8 in. is to fit in a hole, specify the allowance, tolerances, and limit diameters of the shaft and hole on a sketch for: 18

i) A close sliding fit, ii) A precision-running fit, iii) Medium-running fit, and iv) A loose-running fit.

6 A carbon-steel spring is to be subjected to a load that varies from 500 to 1200 lb. The outside diameter should be between 3.5 and 4 in., the spring index between 5 to 10: approximate scale of 500 lb/in. Choose a steel and for a design factor of 1.4 by the wall line, find the wire diameter. Also determine the number of active coils and the free length for squared-and-ground ends. Conform to the general conditions specified in the text. 35

7 A pair of gears with 20° full-depth teeth are to transmit 10 hp at 1750 rpm of the 3 inch pinion; velocity ratio desired is about 3.7; intermittent service. Use a strength reduction factor of about 1.4, with loaded at the tip and teeth are commercially cut. Determine the pitch, face width, and tooth numbers if the material is cast iron, class 20. 35

8 A 6x6 inch full bearing has a frictional loss of fhp = 11 when the load is 68500 lb and n = 1600 rpm; $C_r/r = 0.001$ (a) Compute the minimum film thickness. Is this in the vicinity of that for an optimum bearing? (b) What is the viscosity of the oil and select a proper grade for an operating temperature of 160° F. (c) For the same h_o, but for the maximum-load optimum, determine the permissible load and the fhp. 35

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KHULNA UNIVERSITY OF ENGINEERING &TECHNOLOGY

Department of Textile Engineering

B. Sc. Engineering 2nd Year 2ndTerm Examination, 2017

TE-2219

(Polymer Engineering and Composite)

Time: 3 Hours Total Marks: 210

N.B.: i) Answer any THREE questions from each section in separate scripts.
ii) Figures in the right margin indicate full marks.
iii) Assume reasonable data if missing any.

SECTION-A

1(a)	Define the following terms: i)Polymer ii) Monomer and iii) Oligomer	09
1(b)	Briefly discuss the classification of industrial polymers with examples.	14
1(c)	Write down the monomer, repeat unit and polymer of the followings: i) Polyethylene ii) Nylon 6 and iii) PVC	12
2(a)	Write short notes on: i) Glass transition temperature ii) Softening point and iii) Flow temperature	09
2(b)	Show the relation between Tg and Tm. State the importance of Tg in textiles.	14
2(c)	Compare between the properties of crystalline and amorphous polymers.	12
3(a)	What arepolydispersity and monodispersity? Show the mathematical expression for number average molecular weight and weight average molecular weight.	15
3(b)	Describe the suspension polymerization with advantages.	10
3(c)	What is meant by polymerization techniques? Write the names of polymerization techniques used for thermoset and thermoplastic polymer.	10
4(a)	What is polymer degradation? Discuss the types of polymer degradation.	15
4(b)	What is compounding? State the importance of compounding in polymer engineering.	10
4(c)	How the degradation of polymer can be controlled?	10

SECTION-B

5(a)	What is composite? Describe the constituent of composite.	12
5(b)	State the functions of matrix.	07
5(c)	What factors are to be considered in selecting matrix materials? Explain.	10
5(d)	Compare between thermoplastic and thermoset matrix.	06

6(a)	Classify the composite manufacturing process.	05
6(b)	Depict the principle of resin transfer molding (RTM) with neat sketch and also indicate the flow strategies of RTM.	14
6(c)	Explain the macromechanics, micromechanics and classical laminate theory of analyzing composite.	16
7(a)	Distinguish between laminates and Lamina.	06
7(b)	Classify fiber architecture based on axes and dimensions.	06
7(c)	State the properties and limitations of 3D- woven, 3D- braid and multiaxial warp knit fabrics.	12
7(d)	A unidirectional caron/epoxy composite has the following properties: E_f = 220 GPA, E_m = 4 GPa and V_f = 0.55. Estimate the value of composite longitudinal modulus E_1 and transverse modulud E_2.	08
7(e)	What is rule of mixtures?	03
8(a)	Why polymer nano composites are unique? State the important applications of nano composites.	08
8(b)	Describe the process of injection molding with diagram.	13
8(c)	What is extrusion? Write down the steps of extrusion blow molding to produce hollow shaped articles.	10
8(d)	Mention the applications of composite in automotive industries.	04

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KHULNA UNIVERSITY OF ENGINEERING &TECHNOLOGY

Department of Textile Engineering

B. Sc. Engineering 2nd Year 2ndTerm Examination, 2017

TE-2209

(Fabric Structure and Design-I)

Time: 3 Hours Total Marks: 210

N.B.: i) Answer any THREE questions from each section in separate scripts.
ii) Figures in the right margin indicate full marks.
iii) Assume reasonable data if missing any.

SECTION-A

1(a)	How warp and weft from a piece of woven cloth can be identified?	10
1(b)	Give graph paper example of drafting and lifting plan of a suitable weave. Mention the necessity of drafting plan, lifting plan and denting plan.	12
1(c)	What are meant by simple structure and compound structure of a woven fabric?	06
1(d)	Write down the features of skip draft with graphical representation.	07
2(a)	Tabulate the differences between straight draft and pointed draft.	12
2(b)	Sate the features of different kind of Satin and Sateen with graph paper example.	15
2(c)	Under what circumstances skip drafts are used? How drafting plan can be indicated by ruling line?	08
3(a)	Write down the basic characteristics of twill weave.	05
3(b)	Mention the methods of constructing combined twills with examples.	14
3(c)	Give graph paper example with drafting and lifting plan of the following designs: i) Diaper twill based on $\frac{3}{3}$ base twill ii) Elongated twill based on $\frac{4}{3}$ twill.	16
4(a)	Write the names of five (05) commercial fabrics based on twill weave.	05
4(b)	What is meant by twill angle? How is it influenced?	06
4(c)	Give graph paper example of the following designs with drafting and lifting plan: i) Balanced twill on 20x20 ii) Warp way combined twill based on $\frac{3}{3}$twill iii) Weft way stepped twill on $\frac{3}{1}$ twill base	24

SECTION-B

5(a) Mention the basic characteristics of a plain weave. 05

5(b) Compare fancy matt and stitch matt. 06

5(c) Give graph paper example with drafting and lifting plan of the following designs- 24

i) Warp faced stitched matt $\frac{7}{7}(7)$ weave

ii) $\frac{5}{2}$ Warp rib

iii) $\frac{5}{5}(5)$ Fancy matt

6(a) Give graph paper example with drafting and lifting plans of the following designs- 16

i) Devon Hucka back

ii) Mock leno on 12x12

6(b) State the construction principle of a warp distorted effect with weave plan, drafting plan, and lifting plan. 12

6(c) Mention the technical features and end uses of Hucka back and Ordinary honeycomb weaves. 07

7(a) Draw and describe the method to produce Bedford cord effects. 10

7(b) Show graph paper example of a twill faced Bedford cord with drafting and lifting plans. 15

7(c) Write short notes on wadded double cloth and wadded Bedford cord design. 10

8(a) Show graph paper example on 30x30 of a stripe design by combining warp and weft face weaves, with drafting and lifting plans. 15

8(b) Give graph paper example of a Brighton Honeycomb with drafting plan. 10

8(c) Give graph paper example of a crepe weave produced by superimposing. 10

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