



Q1: Answer both equations below (A and B)

- A. Suppose A is a one dimension array with (10) elements. Write a code program which sorts A so that its elements are increasing and sorters into a new array B. Display the origin array (A) and create array (B) into picturebox which element from A and B in one row respectively.
- B. Write a code program to design a simple calculator. This program uses a combo box which includes four operators, addition, subtraction, multiplication and division and two list boxes included the integer numbers. It can perform the above four basic calculations by changing the operators.

Q2: Execute the following points:

- 1- Declare and read an A-row, B-column matrix array X.
- 2- Add "four" items to list2 in form_load event.
- 3- Remove all items from the list1.
- 4- Write the outputs of the following visual basic coding segment:
Dim A(12) As Single, i
For i = 0 to 12
A(i)=4+i
Print A(i);
Next i

Q3: Suppose N is a (5x2) matrix array is entered into ListBox on row by row. Write a program segment to find the location I and J such that N (I,J) contains the largest value in N. Print the values of array N. Display the Largest value and the location into textboxes.

Q4: answer either (A) or (B)

- (A) An MxN matrix array A is entered into input box. Write a visual basic program segment which is calculated the SUM of elements in each Column and Stored in a one dimension Z. Print the arrays A and Z and the sum of all elements of array Z.
- (B) Suppose a numeric array (A) having M elements. Write a code Program to calculate the elements of the numeric array C, where a numeric array C is determined from the following formula:

$[C] = [A] * [A]^T$. Print a numeric array C.

Q5: Suppose a one dimension array A with N elements is entered into inputbox. Write a visual basic program segment which is calculated the product: $Prod = \prod_i^N (1 - A_i)$

رئيس القسم
أ.م.د. هادي عبيد بشر

مدرس المادة
م.م. حسن سادة محسن

The final exam for the second course of academic year 2017 -2018

Note: Answer five questions only

Q1: (20 Mark)

Use the PRINCIPLE OF SUPERPOSITION to calculate the current flowing in the 10Ω load resistor (R_L) in the circuit of Fig (a):-

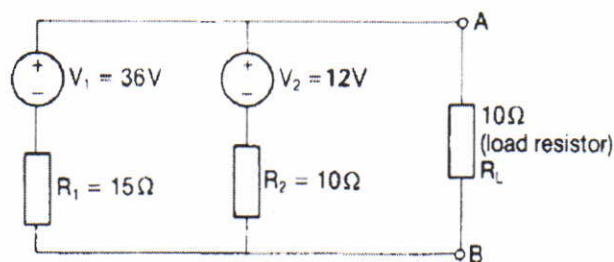


Fig. (a)

Q2: (20 Mark)

Use THEVENIN'S THEOREM to determine the maximum and minimum values of the current I_L when the resistor (r) in the circuit of Fig. (b) is variable from 0 to 250Ω .

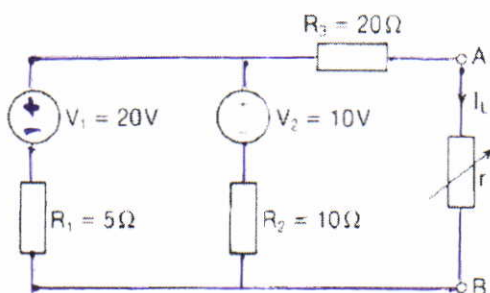


Fig. (b)

Q3: (20 Mark)

Use NORTON'S THEOREM to calculate the maximum and minimum values of the potential difference the resistor (r) in the circuit of Fig. (c). If (r) is variable between 10Ω and 100Ω .

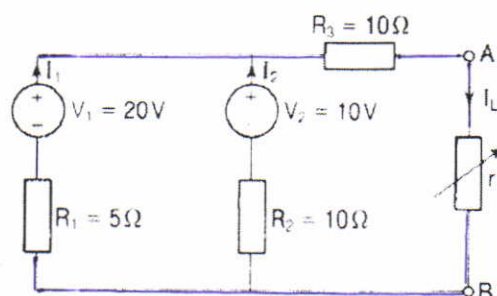


Fig (c)

Q4: (20 Mark)

In the circuit of Fig (d). Calculate (1) the impedance of the circuit, (2) the current drawn from the supply, (3) the phase angle of the circuit.

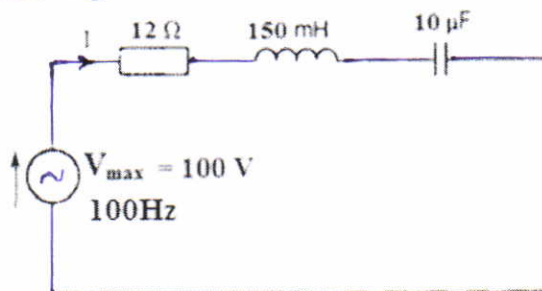


Fig . (d)

Q5: Answer only one branch; (20 Mark)

- a- A coil having a resistance of 10Ω and an inductance of 125 mH is connected in series with a $60 \mu\text{F}$ capacitor across a 120 V supply. At what frequency does resonance occur? Find the current flowing at the resonant frequency.
- b- A series circuit of resistance 70Ω and inductance 85 mH is connected to a 270 V , 80 Hz supply. Calculate the active power dissipated, reactive power, apparent power, and power factor?

Q6: (20 Mark)

- 1- If $I_1 * I_2 = 24.187 \angle 29.74^\circ$, when $I_1 = 3 + j6$, find I_2 in polar.
- 2- If $I_2 / I_1 = 0.538 \angle -97.13^\circ$ when $I_1 = 3 + j6$, find I_2 in rectangular .

Good – Luck

Lecturer
Abdulkareem Sh. Alagani

Head of Dept.
Asist. Ph. D Hadi Ubaid Beshir



Note: Answer All questions

Q1: Chose the correct answer (five only).

(15 marks)

- 1- The process of joining two similar or dissimilar metallic components with application of pressure and with or without the use of filler metal:
a) machining. d) welding. b) forming. c) Casting.
- 2- One of the chief sources of iron is:
a) epoxy b) silicone. c) Red Haematite. d) Bauxite.
- 3- Iron manufacturing is done in several steps one of them is :
a) Washing and concentration. b) Baeyer's process. c) Serpek's process. d) Hall's process.
- 4- Stress compressive load is :
a) negative. b) positive. c) equivalent. d) any of the above.
- 5- The extraction of aluminum is :
a) Melting zone. b) Basic process c) Acid process d) electrometallurgy
- 6- Up to certain load the material will recover its original dimensions when the load is released, this is known as :
a) Hardness . b) Elastic behavior. c) Stiffness. d) Plastic behavior.

Choose (A or B) only

(10 marks)

- Q2:** A) Draw a stress-strain diagram for mild steel specimen with pointing carefully all zones.
: B) Sketch and mark carefully a diagram for Electrolysis of Aluminum .

Q3: Define (five) of the following:

(15 marks)

- 1- Hardness. 2- Brittleness. 3- Pig iron.
- 4- Casting. 5- Stack in Cupola furnace. 6- Shear force (F).

Q4: Choose (three) of the following:

(15 marks)

- 1- Explain ferrous and Non-ferrous metals.
- 2- What are the commercial forms of iron?
- 3- Explain the Electrolysis of pure alumina?
- 4- Explain four of the reaction zones in Cupola furnace.

Wasit University
College Of Engineering
Mechanical Engineering Department
Examiner: Lecturer. Khamaal Mohsen
Ass.Lecturer. Mohaned Salah



Subject: Manufacturing I
Time: 3 Hours
Class: First Year
Date: / /2018
Final Exam: attempt

Q5: Answer all the following:

(15 marks)

- A) A 30mm diameter bar is subjected to an axial tensile load of 150 KN, under the action of this load the specimen elongated from 100 mm to 110 mm; calculate Elastic modulus of the specimen.
B) Describe **one** of the following 1) Acid Bessemer process 2) Basic Bessemer process

Good Luck

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أ.م.د. هادي عبيد بشر
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Question1: Read (This week is different). Are the sentences are true or false? Correct the false ones.

This Week is Different

Colin left his family last week and went by train to Manchester. He is now living in Moss Side, a poor area of the city. He is staying with a married couple, Roger and Margret Waston. They think he is looking for work in Manchester. Roger and Margret live in a small flat on the 8th floor of an apartment block. They only have one bedroom so Colin is sleeping on a sofa in the living room. They run a hostel for homeless teenage boys. This week Colin is working with the boys in the hostel, an old, grey building in a busy road. Some of the boys can't read and write very well and he is helping them learn so that they can find jobs. Roger, Margret and the boys like Colin. They think that he is a good teacher. They have no idea that he is millionaire. Colin says: "I'm missing my family a lot but Roger and Margret are wonderful people. I'm enjoying my time with them very much, I'm learning a lot about life. At the end of the week I want give them £ 100,000 to build a new hostel. I'd like to bring my sons here to meet them all".

- 1- Colin went to Manchester by bus. (20M)
- 2- He isn't sleeping in a bedroom.
- 3- The hostel is for homeless girls.
- 4- They don't think that he is a good teacher.
- 5- He wants to give Roger and Margret a lot of money.

Question2: Tick (✓) the correct sentence. (20 M)

- | | |
|--|---|
| 1- <input type="checkbox"/> Where are you going? | <input type="checkbox"/> Where you going? |
| 2- <input type="checkbox"/> He can drive a tractor. | <input type="checkbox"/> He cans drive a tractor. |
| 3- <input type="checkbox"/> There's DVD player on the floor. | <input type="checkbox"/> There's a DVD player on the floor. |
| 4- <input type="checkbox"/> She watches me and I watch her. | <input type="checkbox"/> She watches me and I watch she. |
| 5- <input type="checkbox"/> The lamp is next to the bed. | <input type="checkbox"/> The lamp is next the bed. |

Question3: Complete the sentences with (was, wasn't, were, weren't)

- 1- Where your father born?
- 2- When your parents born?
- 3- My parents Both born in 1961.
- 4- I on holiday in Syria in 2008.
- 5- he at home yesterday? No, he
- 6- you at work yesterday? Yes, we
- 7- they at school yesterday morning? No, they

Question4: Complete each sentence with the correct item.

(20M)

- 1- Ships and airplanes are streamlined.
 - a. to reduce cost.
 - b. to look more attractive.
 - c. so that they offer the least possible resistance to air and water.
- 2- Greases are used in systems where:
 - a. there is high speed.
 - b. there are high pressures.
 - c. the temperature rises greatly.
- 3- The amount of friction between two bodies is directly proportional to:
 - a. the amount of lubrication used between them.
 - b. the type of friction.
 - c. perpendicular force between the two surfaces.
- 4- In evaporative cooling, the air is cooled by:
 - a. spreading water in the air.
 - b. vaporizes Freon 12 or Freon 22.
 - c. passing the air through an electric heater.
- 5- The packaged air-conditioning system is:
 - a. assembled in the space to be conditioned.
 - b. assembled in the mechanical room of the space to be conditioned.
 - c. factory assembled.

Question5:

A / answer the following questions.

(10M)

- 1- How can humidification be achieved?
- 2- What does the type of lubrication system used depend on?

B / Give an equivalent meaning for the following force. (Choose five only)

(10M)

minimize, reciprocating, transfer, assemble, equipment, refrigerate.

Rwaa Alaa



Q1

(16 marks)

An ideal gas contained in a piston-cylinder device undergoes an isothermal compression process which begins with an initial pressure and volume of 100 kPa and 0.6 m^3 , respectively. During the process there is a heat transfer of 60 kJ from the ideal gas to the surroundings. Determine the volume and pressure at the end of the process.

Q2

A:-

(14 marks)

A piston-cylinder device initially contains 1.4-kg saturated liquid water at 200°C . Now heat is transferred to the water until the volume quadruples and the cylinder contains saturated vapor only. Determine (a) the volume of the tank, (b) the final temperature and pressure, and (c) the internal energy change of the water.

B:-

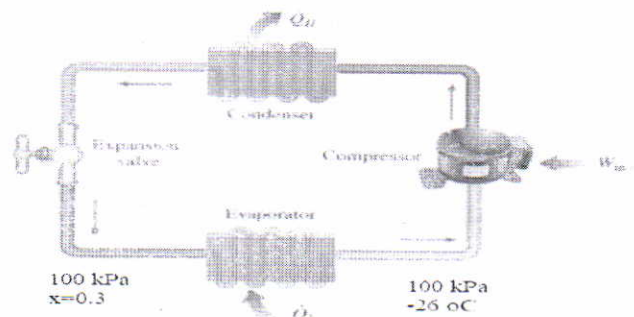
(14 marks)

Water is pumped from a lake to a storage tank 20 m above at a rate of 70 L/s while consuming 20.4 kW of electric power. Disregarding any frictional losses in the pipes and any changes in kinetic energy, determine (a) the overall efficiency of the pump-motor unit and (b) the pressure difference between the inlet and the exit of the pump.

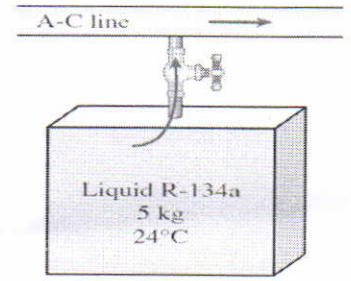
Q3: Answer only one: -

(16 marks)

A:- Refrigerant-134a enters the evaporator coils placed at the back of the freezer section of a household refrigerator at 100 kPa with a quality of 30 percent and leaves at 100 kPa and -26°C . If the compressor consumes 600 W of power and the COP the refrigerator is 1.2, determine (a) the mass flow rate of the refrigerant and (b) the rate of heat rejected to the kitchen air.



B:- An air-conditioning system is to be filled from a rigid container that initially contains 5 kg of liquid R-134a at 24°C. The valve connecting this container to the air-conditioning system is now opened until the mass in the container is 0.25 kg, at which time the valve is closed. During this time, only liquid R-134a flows from the container. Presuming that the process is isothermal while the valve is open, determine the final quality of the R-134a in the container and the total heat transfer.



Q4

(20 marks)

Answer five of the following question:

1. For a system to be in thermodynamic equilibrium, do the temperature and the pressure have to be the same everywhere?
2. How are heat, internal energy, and thermal energy related to each other?
3. What is the physical significance of the compressibility factor Z ?
4. Electric power is to be generated in a hydroelectric power plant that receives water at a rate of 70 m³/s from an elevation of 65 m using a turbine-generator with an efficiency of 85 percent. When frictional losses in piping are disregarded, the electric power output of this plant is
(a) 3.9 MW (b) 38 MW (c) 45 MW (d) 53 MW (e) 65 MW
5. Describe an imaginary process that violates both the first and the second laws of thermodynamics.
6. What is a quasi-equilibrium process? What is its importance in engineering?
7. Starting with Eq.1, $w_b = \int_1^2 p dv$ (1), for a polytropic process of an ideal gas in closed system, obtain Eq.2, $w_b = \frac{RT_1}{1-n} \left[\left(\frac{v_2}{v_1} \right)^{1-n} - 1 \right]$ (2).

Q5

(20 marks)

Steam at 4 MPa and 400°C enters a nozzle steadily with a velocity of 60 m/s, and it leaves at 2 MPa and 300°C. The inlet area of the nozzle is 50 cm², and heat is being lost at a rate of 75 kJ/s. Determine (a) the mass flow rate of the steam, (b) the exit velocity of the steam, and (c) the exit area of the nozzle.

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أ.م. د. الوضحي

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امتحان الدور الثاني للعام الدراسي 2018 - 2017 (سنوي)

6/9/2018

ملاحظة : اجب عن خمسة اسئلة فقط ولكل سؤال 12 درجة

Q1: Define the following engineering terms:

- | | | |
|------------------------|---------------------|---------------------|
| 1- Composite materials | 2- Creep rate | 3- Jominy test |
| 4- Corrosion | 5- High speed steel | 6 - Heat treatments |

Q2: A) Draw the general stress – strain curves for different following materials (steel, polymer, ceramic, aluminum)

B) Explain about the factors which controls on final grain size.

Q3: The yield strength of mild steel with an average grain size of 0.05 mm is 138 Mpa. The yield strength of the same steel with grain size of 0.007 mm is 276 Mpa. What will be the average grain size of the same steel with yield stress of 207 Mpa?

Q4: Prove that the critical stress intensity factor $k = \sigma_f \sqrt{\pi c}$ by using Griffiths theory of fracture.

Q5: A) A 1.5 cm thick cooper plate is cold reduced to 0.75 cm, and later further reduced to 0.25 cm. Determine the % C.W. for each stage then the total percent cold work of the plate with draw a process.

B) Show the cause for a failure of a titanium pipe which used to transport a corrosive material at $\approx 500^\circ\text{C}$ and about time one year.

Q6: Copper has an atomic radius of 1.28×10^{-8} cm, an Fcc crystal structure and an atomic weight of 63.5 g/ mole. Compute its density. Take the Avogadro's no. = 6.022×10^{23} atom / mole.

رئيس القسم
م.م. محمد غالب
6/9

مع تمنياتي بالنجاح

استاذ المادة
م.م. حازم علي شبيب
2018/9/6



الامتحان النهائي للعام الدراسي (٢٠١٨/٢٠١٧) الفصل الدراسي الثاني الدور الثاني

Note: Answer All Questions

Q1) Define the Following Engineering Terms: (choose 5) .

(15 degree)

1. Carbon Steel	2. Heat Treatment Problems	3. Carbonitriding
4. Monel Alloy	3. High Speed Steel	6. Alloy

Q2) What are the differences between the following: (choose 3) .

(15 degree)

1. Induction hardening with Flame hardening .
2. Full annealing with Partial annealing .
3. Eutectic with Eutectoid point .
4. Creep with Fatigue property .

Q3) Prove that:

(15 degree) .

The critical stress intensity factor (K) is equal :

$$K = \sigma_f \sqrt{\pi * C} .$$

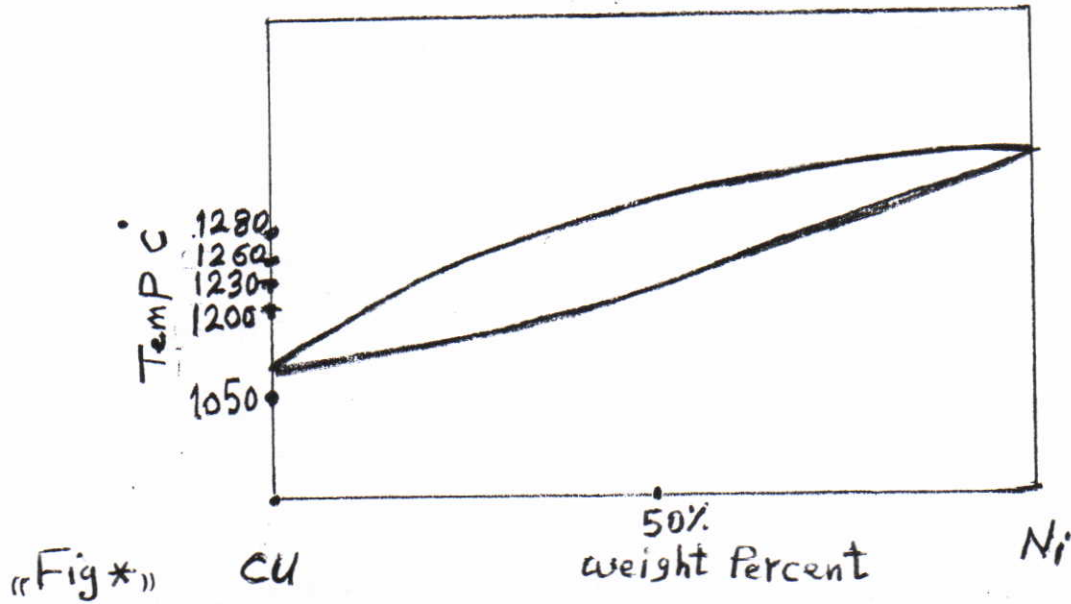
Q4) Explain about the following:

(15 degree) .

- A) Mechanism of transformation the pearlite to austenite phase .
- B) Heat treatments , Objects , Types , Properties , and Applications .

Q5) Determine the amount of each phase in the (Cu-35Ni) alloy shown in fig * at temperatures :-

[1050 C°, 1200 C°, 1230 C°, 1260 C°, 1280 C°]: (10 degree)



(Best Wishes)

رئيس القسم

أ.م.د. هادي عبيد بشر .

استاذ المادة

د. حازم علي شهيب .

٢٠١٧/٩/١٦



Final examination 2nd attempt First course 2017-2018

Note: Answer All Questions

Q1 Define the following metallurgical terms: (choose 5)

- | | | |
|--------------------|---------------------------|---------|
| 1- Dislocations. . | 2- Annealing. | |
| 3- Creep. | 4- Fracture. | |
| 5- Hardness. | 6- Engineering Materials. | 15 Mark |

Q2 Answer Two of the Following:

- a) show with draw the components (forces) generates on slip plane.
 - b) what does the diffusion state? . Explain.
 - c) draw the general stress – strain curves for different materials (steel, aluminum, ceramic, polymer).
- 15 Mark

Q3 Find the atomic packing factor for (FCC and BCC) in crystal structure.

10 Mark

Q4 a) The yield strength of mild steel with an average grain size of 0.05 mm is 138 MPa. The yield strength of the same steel with grain size of 0.007 mm is 276 MPa. What will be the average grain size of the same steel with yield stress of 207 MPa.


b) Explain about the factors which controls on final grain size. 15 Mark


Q5 A cylindrical specimen of steel having an original diameter of 12.8 mm is tensile tested to fracture and found to have an engineering fracture strength σ_f of 460 Mpa. If its cross-sectional diameter at fracture is 10.7 mm, determine:

a) ductility in terms of percent reduction in area.

b) true stress at fracture.

15 Mark

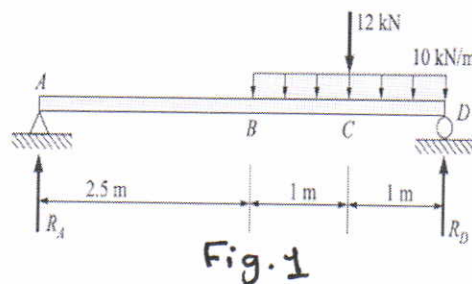

د. ح. علي
رئيس قسم الميكانيك


With my Best wishes
Lecturer: Hazim Ali

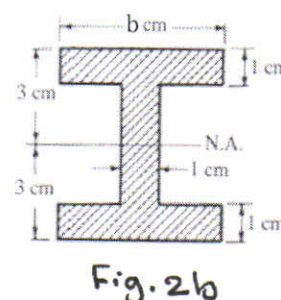
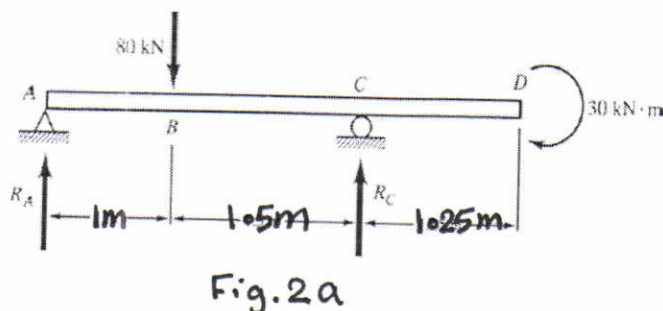


Final exam- semester (2)- 2017-2018

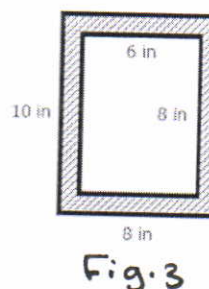
Q1: The simply supported beam AD is subject to a uniform load over the segment BC together with a concentrated force applied at C as shown in Fig. 1. Find the numerical values of shear force and bending moment at the load change points as well as the zero shear point. Plot shear and moment diagrams (use $R_A=7.11$ KN and $R_D=24.89$ KN). (20 Marks)



Q2: The simply supported beam AD is loaded by a concentrated force of 80 kN together with a couple of magnitude 30 kN·m, as shown in Fig. 2a. Use the cross-section as in Fig. 2b but with unknown width b. Determine b if the peak allowable working stress in tension as well as compression is 600 MPa. (use $R_A=36$ KN and $R_C=44$ KN). (20 Marks)



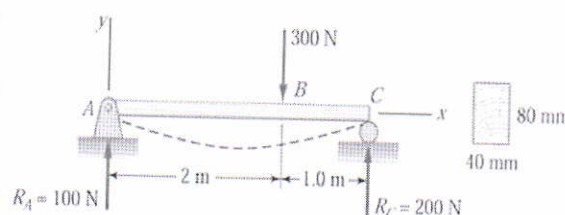
Q3: For a beam with the same cross section as that in Fig. 3, find the shearing stress at a fiber 3 inch from the top edge and at the N.A. Consider the shearing force is $V = 1800$ lb. (20 Marks)



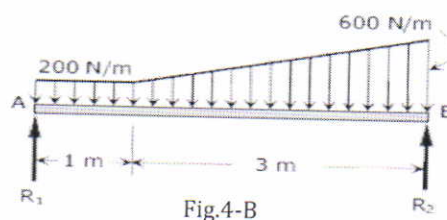
Q4: Choose A or B

A) The simply supported wood beam ABC in Fig. 4-A has the rectangular cross section shown. The beam supports a concentrated load of 300 N located 2 m from the left support.

Determine the maximum displacement and maximum slope angle of the beam. Use $E = 12$ Gpa for the modulus of elasticity. Neglect the weight of the beam. (20 Marks)



B) For the beam loaded as shown in Fig. 4-B, compute the moment of area of the M diagrams between the reactions about both the left and the right reaction. (Hint: Resolve the trapezoidal loading into a uniformly distributed load and a uniformly varying load. (20 Marks)



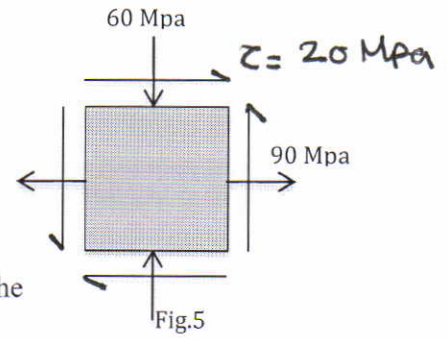
Q5: The state of plane stress at a point is represented by the stress element shown in Fig.5 where

$\sigma_x = 90 \text{ MPa}$, $\sigma_y = -60 \text{ MPa}$ and $\tau_{xy} = 25 \text{ MPa}$ (clock wise)

Perform the following:

- Draw the Mohr's circle and determine the principal stresses and the maximum shear stresses
- Find the stresses on an element inclined at 30° clockwise and draw the corresponding stress elements.

(20 Marks)



Good luck

Dr.Hussein Al-Bugharbee
Subject instructor

Assist. Prof.Dr.Hadi Al-Qurashi
Head of the Mechanical eng. dep.

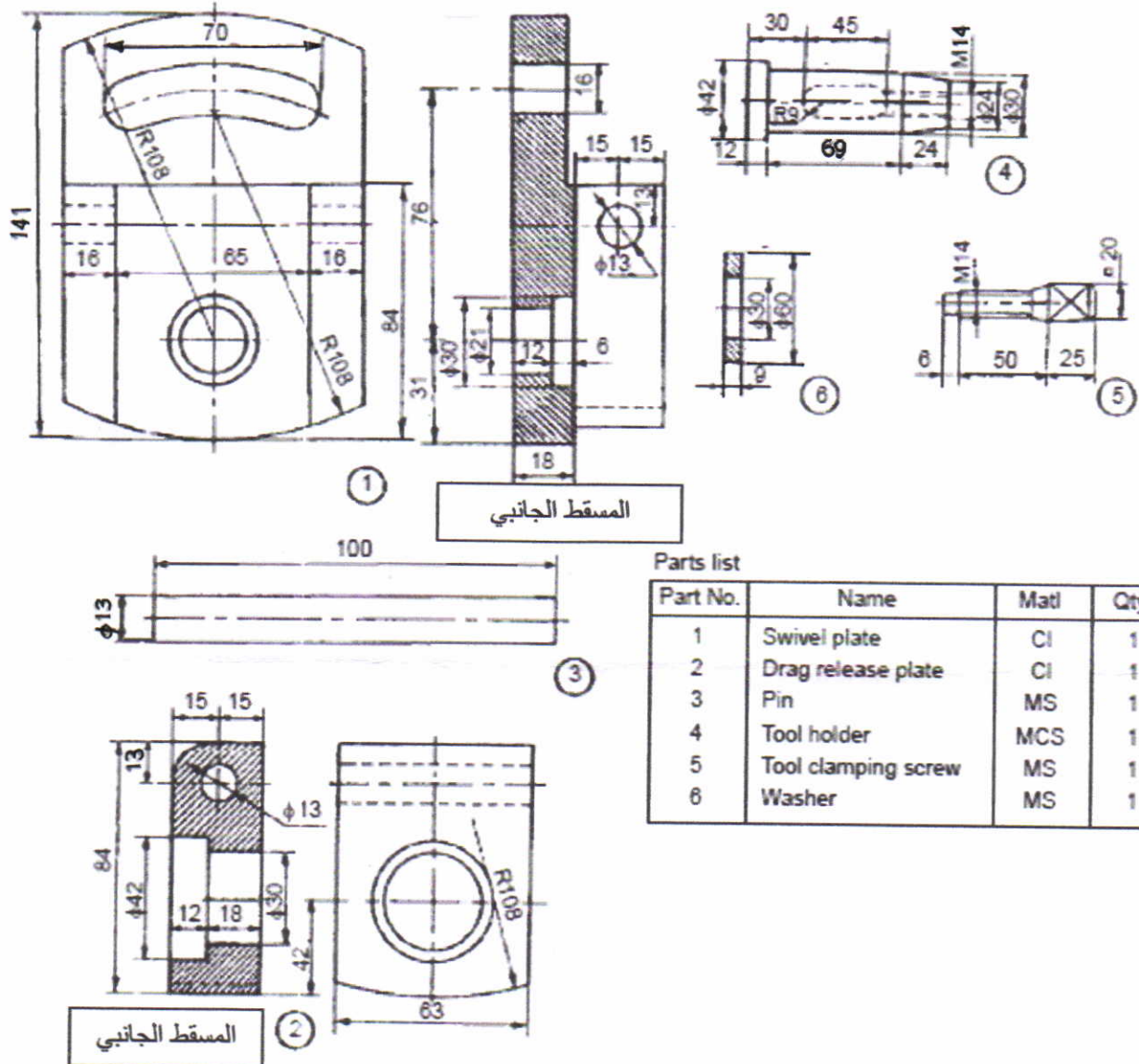
د. هادي القرشي
رئيس قسم الميكانيكا

أقلب الورقة

س1:

ارسم فقط المقطع الجانبي الكامل للشكل المجمع (ماسكة قلم تفريز Clapper Block) المبينة ادناه مع ملاحظة مايلي:

1. ترقيم كافة الاجزاء
2. كافة الاجزاء من الحديد الصلب
3. اختر الابعاد المناسبة لاية ابعاد غير معطاة



Best Wishes

د. هادي عيسى
رئيس القسم

د. هاتم محمود علي سماكة



Final exam

Answer 5 questions

Q1) In fig.1 the fluid is water and the pressure gage read $p_1 = 180$ kpa .if the mass flux is 16 kg/s .what is the head loss between 1 and 2.

Q2) For laminar flow conditions .What size pipe should be installed to carry $0.02 \text{ m}^3/\text{s}$ of heavy fuel oil ($\nu = 0.00021 \text{ m}^2/\text{s}$ and $s.g = 0.8$) if the available lost head ($h_f = 22 \text{ m}$) in the 1000 m length of horizontal pipe .

Q3) Oil flows in the pipe shown in fig.2 the orifice in the pipe has a coefficient of discharge of 0.64 .Compute the discharge of the oil in the pipe .take $C_c = 0.63$, $g = 32 \text{ ft/s}^2$.

Q4) Heavy oil of ($\mu = 0.19 \text{ N.s/m}^2$, $s.g = 0.91$) flows in a pipe of 120mm diameter at a rate of 20 L/s. Calculate:

1. Reynolds number and type of flow.
2. Maximum velocity.
3. The velocity of oil at 4cm from the wall of the pipe.

Q5) A plate 400 mmx200 mm has been placed longitudinally in a stream of crude oil of specific gravity 0.9 and kinematic viscosity of $0.85 \times 10^{-4} \text{ m}^2/\text{s}$. The free stream velocity is 5 m/s. Calculate:

1. The friction drag on the plate.
2. The boundary layer thickness at the trailing edge.
3. The shear stress at the trailing edge.

Q6) A model airplane is built to a scale 1/20 if the prototype is to fly at 425 m/h ,what must be the air velocity in the wind tunnel (V_m) to achieve the same Reynolds number at the same temperature and pressure .

Examiner
Assist. Prof. Dr. Hadi Abeid

GOOD LUCK

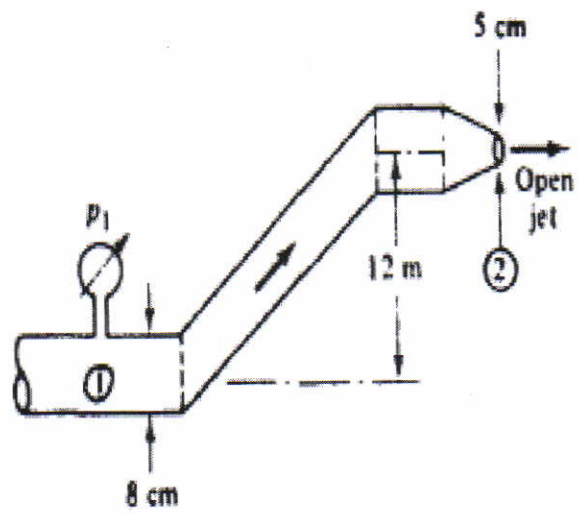


Fig.1

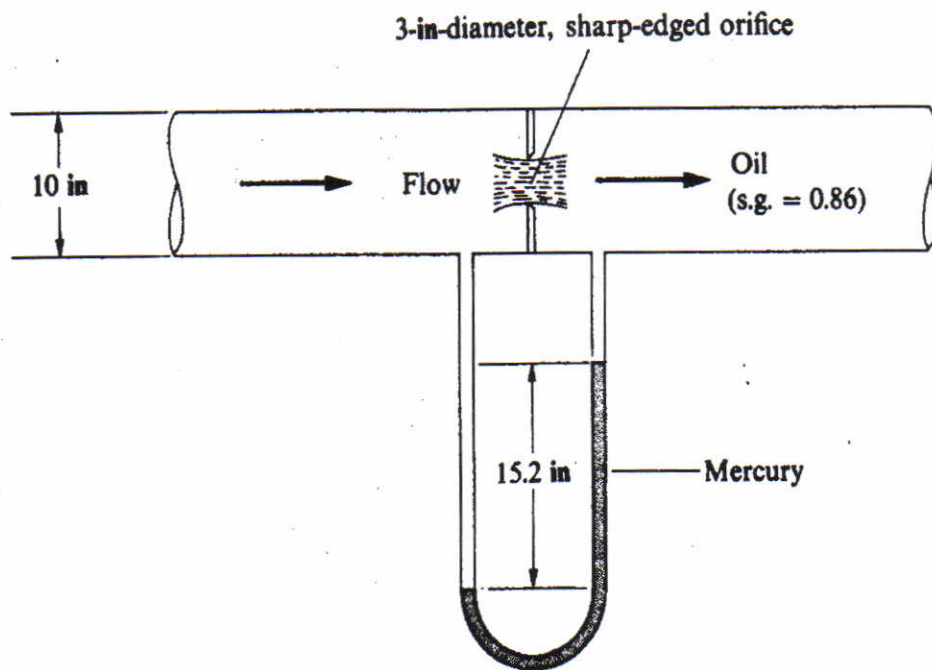


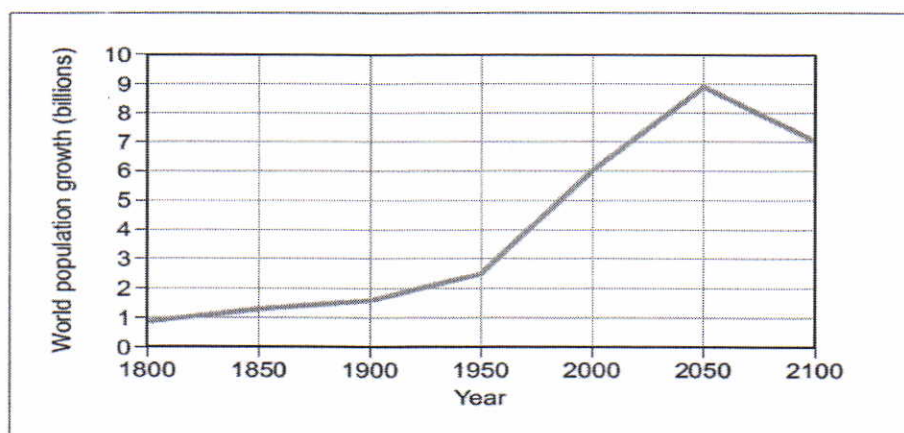
Fig.2



2017-2018

(Note: Attempt five questions only, 20 marks for each question)

Q1: The graph below gives information on the world population growth. Write a report describing the information in the graph. (20 M)



Q2: Write sentences to say *why* you go to these places: (20 M)

1) a library 2) a bookshop 3) a newsagent's 4) a sports centre 5) a post office

Q3: Put words below in the correct place in each sentence. (20 M)
So So many So much Such

1. I don't think this was a good idea.
2. Den and Linda are boring people.
3. There was food at the party.
4. People knew, I'm surprised no-one said anything.
5. The book was interesting, I read until 3 a.m.
6. She didn't go to work for a month because she was ill.
7. Hello! I haven't seen you for a long time!
8. That was a good meal.
9. You are annoying!
10. I can't pay €300 for a pair of shoes, it's money!

Q4: Write true answers, use the second conditional.

(20 M)

What would you

1. do if you found an expensive watch?
2. wear if you went to a princess's wedding?
3. buy if you won a lot of money?
4. take if your house was on fire?
5. say if your boss asked you to work seven days a week?

Q5: Write the sentences in the passive.

(20 M)


1. I didn't invite them to the party.
2. They don't make Nissans in Mexico.
3. He will make the film next year.
4. Do they grow tea here?
5. Will she clean the windows?
6. They haven't bought the flowers.
7. Vegetarians don't eat hamburgers.
8. Our workers speak English.
9. They don't allow people to park in front of their gate.
10. The principal has forbidden smoking on the campus.

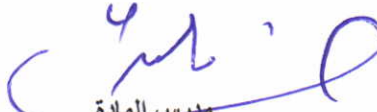
Q6: Change the direct speech to reported speech.

(20 M)

1. 'I want an ice-cream.'
2. 'I think I know the answer.'
3. 'I've eaten snake meat in China.'
4. 'We didn't watch TV on holiday.'
5. 'I don't live in a house.'
6. 'We can speak Italian.'
7. 'I haven't seen my family for three years.'
8. 'I'll help you to paint the house.'
9. 'They can't play any instruments.'
10. 'We saw her in January.'

Best wishes


رئيس القسم / ع
ا.م.د. هادي عبيد بشر
د.د. محمد غالب عرن


مدرس المادة
م.د. فاروق عمر حمدون



Final Examination 2017-2018 (2nd Attempt)

Answer four questions only. Each Question carries 25 marks.

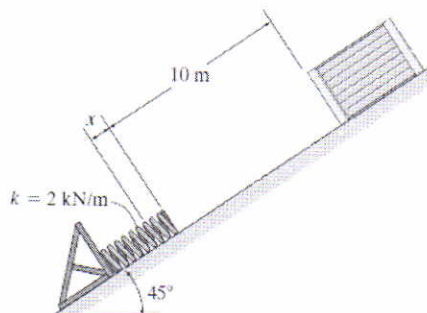
Q1 A car has an initial speed of 25 m/s and a constant deceleration of 3 m/s^2 . Determine the velocity of the car when $t = 4 \text{ s}$. What is the displacement of the car during the 4-s time interval? How much time is needed to stop the car?

Q2 For a short time, the path of the plane in the figure is described by $y = (0.001x^2) \text{ m}$. If the plane is rising with a constant velocity of 10 m/s, determine the magnitudes of the velocity and acceleration of the plane when it is at $y = 100 \text{ m}$.

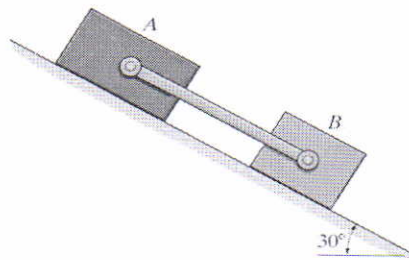


Q3 When designing a highway curve it is required that cars traveling at a constant speed of 25 m/s must not have an acceleration that exceeds 3 m/s^2 . Determine the minimum radius of curvature of the curve.

Q4 If the coefficient of kinetic friction between the 100-kg box and the plane is 0.25, determine the speed of the box at the instant the compression of the spring is $x = 1.5 \text{ m}$. Initially the spring is unstretched and the box is at rest.



Q5 If blocks A and B of mass 10 kg and 6 kg, respectively, are placed on the inclined plane and released, determine the force developed in the link. The coefficients of kinetic friction between the blocks and the inclined plane are μ of $A = 0.1$ and μ of $B = 0.3$. Neglect the mass of the link.



د. محمد صالح
 / أ. م. عبد الله

"Best of luck for exam"
 Dr. Anwer J. AlObaidi

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