



Set-02
3.30 to 3.30
TF
22/10/13

ANJUMAN-I-ISLAM'S

KALSEKAR TECHNICAL CAMPUS, NEW PANVEL

School of Engineering & Technology

Subject: Environmental Studies

Marks: 20

Date: 22/10/2013

Duration: 1hr(2.30 to 3.30)

(2013-14)

Div: ME(SEM-V)

Unit Test: 2

N.B. (1) Q No. 1 is Compulsory

Test

(2) Attempt any ONE question from Q No. 2 & 3

1. Answer any three:

[4 * 3]

- What can you do to minimise waste and manage it better?
- What is meant by Environmental Impact Assessment?
- Write a descriptive note on "Child Labour" in India?
- What do you understand by existence and coexistence?

2. Discuss the special problems of displacements caused by dams.

[8]

3. Narrate the story of Miniamata Disaster

[8]



ANJUMAN-I-ISLAM'S
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL
School of Engineering & Technology

Subject: Heat and Mass TransferDate: 22 Oct 2013Marks 30Duration: 1 Hr 00 MinutesClass: T.E. (V)Test - IIBranch: Mechanical

Instructions: All Questions are compulsory.

(20/3-14)

Q 1 Attempt any four

[4x4= 16 Marks]

1. What are the methods of increasing the rate of heat transfer?
2. Discuss in detail, the various regimes of pool boiling.
3. Write a short note on "Selection and design aspects of a heat exchanger"
4. State the laws of radiation. Prove the 'Kirchoff's law'.
5. What is black body? How does it differ from Grey body?
6. Draw the temperature profile for heat exchangers under parallel flow, counter flow, Condensing and Boiling conditions.

Q 2 Attempt any one

[08Marks]

A) Estimate the heat transfer rate from a 100 W incandescent bulb at 150°C to an ambient at 25°C.

Approximate the bulb as 6 cm diameter sphere. Calculate the percentage of power lost by natural convection. Neglect radiation effects. Use following co-relation and Air properties:

$$Nu = 0.60 (Gr Pr)^n, \quad n = 0.25$$

The properties of Air at 87°C are, $\nu = 21.46 \times 10^{-6} \text{ m}^2/\text{s}$, $K_f = 30.38 \times 10^{-3} \text{ W/mK}$, $Pr = 0.699$

B) Water flows through tube of 2.2 cm diameter tube with a velocity of 2 m/s. The water is heated from 15°C to 60°C by condensation at 150°C on the outer surface of the tube. Using the equation, $Nu = 0.023 (Re)^{0.8} (Pr)^{0.4}$. Find the heat transfer co-efficient and length of the tube required for transferring the above amount of heat. Neglect the tube resistance as well as outer surface film resistance. Take the following properties of water at mean temperature:

$$\rho = 990 \text{ kg/m}^3, \quad C_p = 4160 \text{ J/kgK}, \quad \mu = 700 \times 10^{-6} \text{ kg/m.s}, \quad K = 0.63 \text{ W/mK}$$

C) A heat exchanger is constructed from 4 cm OD tube to cool 6 kg/s of liquid from 65°C to 40°C, using 6 kg/s of water at 10°C. assuming $C_p = 3.6 \text{ kJ/kgK}$ and $U_o = 567 \text{ W/m}^2\text{K}$. Determine the heat transfer area required for i) Parallel flow and ii) counter flow arrangements. Comment on results obtained.

Q 3 Attempt any one

[06 Marks]

A) With the help of dimensional analysis prove that for forced convection:

$$Nu = \text{constant} \times (Re)^m \times (Pr)^n$$

B) Prove that the total emissive power of a black body is π times the intensity of radiation.

C) Describe the construction and working of a 'Heat Pipe'. State its applications.



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(2013-14)

Subject: MMM (Test II)

Marks: 20

Class: TE (V)

Date: 03.13

Duration: 1 Hr

Branch: ME

Test - II

Instructions: (1) All questions are compulsory there may be internal options.

(2) Figures to the right indicate full marks.

Q.1 Attempt any five of the following.

[2x5]

- State diagrammatically the principle of operation of sine bar.
- Draw the symbols for representing Squareness, Flatness, Roundness and Cylindricity.
- State the principle of operation of Pirani Vacuum gauge and Ionisation gauge.
- State the principle of operation of Capacitive transducers.
- State the different methods used for temperature measurements.
- State the principle of operation of Inductive and Piezoelectric transducers

Q.2 Attempt any one of the following.

[05]

- Define fit and classify it depending on the actual limits of hole or shaft. Give examples of each type of fit.
- Explain the construction and working of LVDT.

Q.3 Attempt any one of the following.

[05]

- A McLeod gauge has a bulb volume of 100cc and a capillary diameter of 1mm. Calculate the pressure in pascals corresponding to a reading of 30mm column of Hg in the capillary.
- Write a note on ringing of slip gauges.

***** ALL THE BEST *****



(2013-14)

ANJUMAN-I-ISLAM'S
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL
School of Engineering & Technology

Subject: Fluid Mechanics
Marks: 30
Class: TE (V)

Date: 21/10/2013
Duration: 1 Hr
Branch: Mechanical Engg.

Test II

Q1) Attempt any four

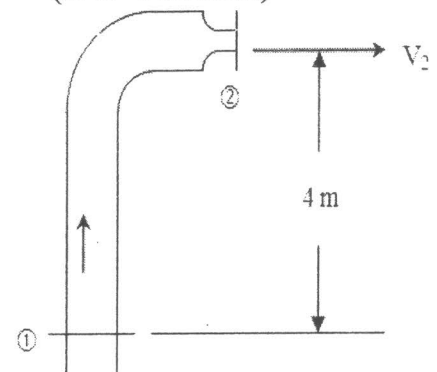
(4×4=16Marks)

- 1) Write a note on minor and major losses in pipes.
- 2) State the Reynold's transport theorem and from RTT get the expression of continuity equation in integral form.
- 3) Explain briefly the following- i) Hydraulic gradient line ii) Energy gradient line
- 4) Why is coefficient of discharge of an orifice meter much smaller than that of venturimeter?
- 5) Derive Darcy-Weisbach formula for calculating loss of head due to friction in a pipe.
- 6) State and prove Bernoulli's equation.

Q2) Attempt any two

(2×7=14Marks)

- A) Water flows steadily up the vertical 0.1 m diameter pipe and out the nozzle, which is 0.05 m in diameter, discharging to atmospheric pressure shown in fig.(1). The stream velocity at the nozzle exit must be 20 m/s . Calculate the minimum gauge pressure required at section ①.



- B) A lubricating oil of viscosity 1 poise and specific gravity 0.9 is pumped through a 30 mm diameter pipe. If the pressure drop per meter length of pipe is 20 KN/m^2 , determine
- (i) Mass flow rate in kg/min ,
 - (ii) Shear stress at the pipe wall.
- C) A 120° reducing pipe bend tapers from 360mm diameter at the inlet to 240mm diameter at the outlet. The vertical height between inlet and exit section is 2.4m . The pressure at the inlet is 720kpa gauge and rate of flow of water through bend is 300l/sec . Neglecting the friction. Calculate the net resultant force exerted by water on the bend. The volume of bend is 0.14m^3 .

-----Best of Luck-----



(2013-14)

ANJUMAN-I-ISLAM'S
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL
School of Engineering & Technology

Subject: Theory of Machines-II

Date: 04.03

Marks: 30

Duration: 1 Hr

Class: TE ME (V) Test - II

Branch: Mechanical Sem-V

Note: 1) **Q.1 is compulsory**

- 2) Attempt Any two of remaining three questions
- 3) All questions carry 10 Marks
- 4) Use graph paper wherever necessary

Q.1) Write short note on (10)

- a) Pressure angle and methods to Control Pressure Angle
- b) Effort and Power of a Governor

Q.2) Attempt **ANY TWO**

1) In a spring loaded governor of the Hartnell type, the mass of each ball is 5 kg and the lift of the sleeve is 50 mm. The speed at which the governor begins to float is 240 r.p.m., and at this speed the radius of the ball path is 110 mm. The mean working speed of the governor is 20 times the range of speed when friction is neglected. If the lengths of ball and roller arm of the bell crank lever are 120 mm and 100 mm respectively and if the distance between the center of pivot of bell crank lever and axis of governor spindle is 140 mm, determine the initial compression of the spring taking into account the obliquity of arms.

2) A cam is rotating clockwise at a uniform speed of 300 rpm is required to give a translatable follower the motion defined below:

- a) Follower to move outward through a distance of 50 mm during 150 degrees of cam rotation
- b) Follower to dwell for next 30 degrees of cam rotation.
- c) Follower to return to its initial position during 120 degrees of cam rotation.
- d) Follower to dwell for next 60 degrees of cam rotation.

The follower motion for outward stroke is SHM while the return is with cycloidal motion. Plot the displacement, velocity, acceleration and jerk versus time curves of the follower motion.

3) An aeroplane makes a circular turn of 100 m radius, towards left when flying at 400 kmph. The engine and propeller of plane weighs 500 kg and has a radius of gyration of 30cm. The engine rotates at 3000 rpm anticlockwise, when viewed from front end. Find the gyroscopic couple and its effect.

-----Best of Luck-----



Symbol of Secularism
& National Integration

(2013-14)

**ANJUMAN-I-ISLAM'S
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL**

School of Engineering & Technology

Subject: Environmental Studies

Marks: 20

Date: 22/10/2013

Duration: 1hr(2.30 to 3.30)

Div : ME(SEM-V)

Unit Test : 2

N.B. (1) Q No. 1 is Compulsory

(2) Attempt any ONE question from Q No. 2 & 3

Class Test - 4

1. Answer any three:

[4 * 3]

- What can you do to minimise waste and manage it better?
- What is meant by Environmental Impact Assessment?
- Write a descriptive note on "Child Labour" in India?
- What do you understand by existence and coexistence?

2. Discuss the special problems of displacements caused by dams.

[8]

3. Narrate the story of Miniamata Disaster

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School of Engineering & Technology

Subject: Environmental Studies

Marks: 20

Date: 22/10/2013

Duration: 1hr(2.30 to 3.30)

Div : ME(SEM-V)

Unit Test : 2

N.B. (1) Q No. 1 is Compulsory

(2) Attempt any ONE question from Q No. 2 & 3

1. Answer any three:

[4 * 3]

- What can you do to minimise waste and manage it better?
- What is meant by Environmental Impact Assessment?
- Write a descriptive note on "Child Labour" in India?
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(2013-14)

**ANJUMAN-I-ISLAM'S
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL
School of Engineering & Technology**

Subject: GUIDB

Date: 04-13

Marks: 20

Duration: 01 Hr/s

Class: TE ME

Branch: Mechanical Engg

- Instructions:** 1. Question 5 is compulsory.
2. Answer any two from remaining questions.
3. Draw suitable diagrams wherever necessary.

Class Test - II

1. What is GUI? Mention any five tools in it. (5 Marks)
2. write the visual programming for a simple calculator. (5 Marks)
3. Describe the E-R model in a Database. (5 Marks)
4. Explain some constraint in E-R model. (5 Marks)
5. write the SQL queries to display the required result for the table given below(Draw the results): (10 Marks)
 - a. Arrange the table in ascending order in with the *firstname*.
 - b. Insert two new record in the given table.

P_Id	LastName	FirstName	Address	City
1	Kumari	Mounitha	Vpura	Bangalore
2	Kumar	Pranav	Yelhanka	Bangalore
3	Gubbi	Sharan	Hebbal	Tumkur
4	Nilsen	Tom	Vingvn 23	Tumkur

23/10/13 Afternoon

2:30 to 3:30



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ANJUMAN-I-ISLAM'S

(2013-14)

KALSEKAR TECHNICAL CAMPUS, NEW PANVEL

School of Engineering & Technology

Subject: Environmental Studies

Marks: 20

Date: 23/10/2013

Duration: 1hr(2.30 to 3.30)

Div : ME/ET/CO/ELEC(SEM-V)

Unit Test : 2

N.B. (1) Q No. 1 is Compulsory

(2) Attempt any ONE question from Q No. 2 & 3

1. Answer any three:

[4 * 3]

(a) Write a note on Solid Waste Management

(b) What are the problems faced by children who are either AIDS victims or live in AIDS-affected families?

(c) What are the problems that a resident of an urban slum faces?

(d) Explain the requirement of an Environmental Impact Assessment for certain types of projects.

2. Write an essay on the impact of dams on people. What are the usual expected benefits? What are the negative impacts on people? What does the World Commission say on the topic? What do the cases of Narmada and the Three Gorges dams illustrate? [8]

3. Describe the major international efforts to save biodiversity. What has been the role of Indian governments in these efforts? [8]