



MONAD UNIVERSITY HAPUR (UP)
(SCHOOL OF AGRICULTURE SCIENCE & ENGINEERING)

Course : B.Tech.(Ag.Engg.) V^{Sem}
Subject Name : Design of Farm Tractor and Machinery
Sub. Code : EAG-352
Assignment No : 1

Due date of submission: 10.11.2016

Instruction

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HOD within the due date.
3. Write your Name, Programme, and Enrolment No. clearly at the top of the page.

Q.1.

- (a) Explain the history of tractor in India.
- (b) Design the engine cylinder of a 35 hp four stroke cycle diesel engine for a tractor

Q2.

- (a) Design of fly wheel of a 35 hp four stroke cycle diesel engine for a tractor.
- (b) What do you mean by cooling system of a tractor? Describe the design of air cooling system for a 35 hp diesel tractor.



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Q.1:-

- a) Write the relations used for maximum stress when a machine member is subjected to tensile or compressive stresses along with shearing stresses.
- b) Design a hollow shaft required to transmit 11.2 MW at a speed of 300 r.p.m. The maximum shear stress allowed in the shaft is 80 MPa and the ratio of the inner Dia. to outer Dia. is 3/4.

Q.2

- a) Write Soderberg's equation and state its application to different types of loadings.
- b) A double riveted double cover butt joint is made in 12mm thick plates with 18 mm Dia. rivets. Find the efficiency of the joint for a pitch of 80 mm, if

$$\sigma_t = 115 \text{ MPa} \quad \tau = 80 \text{ MPa} \quad \sigma_c = 160 \text{ MPa}$$



MONAD UNIVERSITY HAPUR (UP)
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Course : B.Tech.(Ag.Engg.)V^{Sem}
Subject Name : Refrigeration and Air conditioning
Sub. Code : EAG-354
Assignment No : 1

Due date of submission: 10.11.2016

Instruction

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HOD within the due date.
3. Write your Name, Programme, and Enrolment No. clearly at the top of the page.

Q.1

- (a) Explain Vapour absorption refrigeration system with neat sketch.
- (b) Explain Vapour compression refrigeration system with neat sketch.

Q.2

- (a) Explain the types of air-conditioners.
- (b) Write short notes on:
 - (i) Dry bulb temperature (ii) Wet bulb temperature
 - (iii) Relative humidity (iv) Adiabatic saturation



MONAD UNIVERSITY HAPUR (UP)
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Course : B.Tech.(Ag.Engg.)V^{Sem}
Subject Name : Watershed Hydrology
Sub. Code : EAG-355
Assignment No : 1

Due date of submission: 10.11.2016

Instruction

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HOD within the due date.
3. Write your Name, Programme, and Enrolment No. clearly at the top of the page.

Q.1.

- (a) Explain hydrological cycle.
- (b) Define precipitation? And explain its form.

Q2.

- (a) What do you mean by runoff and explain factor affecting of runoff.
- (b) Define evaporation? Write to elements of weather and explain factor affecting of evaporation.



MONAD UNIVERSITY HAPUR (UP)
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Course : B.Tech.(Ag.Engg.)V^{Sem}
Subject Name : Irrigation and Drainage Engineering
Sub. Code : EAG-356
Assignment No : 1

Due date of submission: 10.11.2016

Instruction

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HOD within the due date.
3. Write your Name, Programme, and Enrolment No. clearly at the top of the page.

Q.1.

- (a) Enlist various traditional irrigation method and describe any two of them.
- (b) Define infiltration and explain factor affecting of infiltration also.

Q2.

- (a) List the different components of the sprinkler system and describe the advantage and limitation of a sprinkler method of irrigation.
- (b) What is the necessity of draining agricultural land? Enlist that are obtained from drainage.