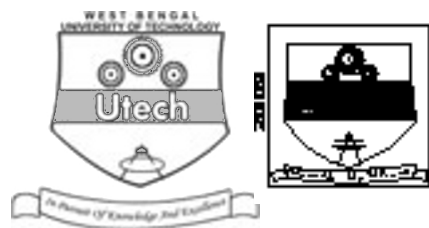


TWO AND THREE WHEELER (SEMESTER - 6)

CS/B.TECH (AUE-N)/SEM-6/AUE-603/09



1.
Signature of Invigilator

2.
Signature of the Officer-in-Charge

Reg. No.

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Roll No. of the Candidate

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CS/B.TECH (AUE-N)/SEM-6/AUE-603/09
ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE – 2009
TWO AND THREE WHEELER (SEMESTER - 6)

Time : 3 Hours]

[Full Marks : 70

INSTRUCTIONS TO THE CANDIDATES :

1. This Booklet is a Question-cum-Answer Booklet. The Booklet consists of **32 pages**. The questions of this concerned subject commence from Page No. 3.
2. a) In **Group – A**, Questions are of Multiple Choice type. You have to write the correct choice in the box provided **against each question**.
b) For **Groups – B & C** you have to answer the questions in the space provided marked 'Answer Sheet'. Questions of **Group – B** are Short answer type. Questions of **Group – C** are Long answer type. Write on both sides of the paper.
3. **Fill in your Roll No. in the box** provided as in your Admit Card before answering the questions.
4. Read the instructions given inside carefully before answering.
5. You should not forget to write the corresponding question numbers while answering.
6. Do not write your name or put any special mark in the booklet that may disclose your identity, which will render you liable to disqualification. Any candidate found copying will be subject to Disciplinary Action under the relevant rules.
7. **Use of Mobile Phone and Programmable Calculator is totally prohibited in the examination hall.**
8. You should return the booklet to the invigilator at the end of the examination and should not take any page of this booklet with you outside the examination hall, **which will lead to disqualification**.
9. Rough work, if necessary is to be done in this booklet only and cross it through.

No additional sheets are to be used and no loose paper will be provided

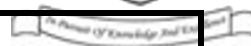
FOR OFFICE USE / EVALUATION ONLY

Marks Obtained

	Group – A										Group – B					Group – C					Total Marks	Examiner's Signature
Question Number																						
Marks Obtained																						

.....
Head-Examiner/Co-Ordinator/Scrutineer

6742 (09/06)



DO NOT WRITE ON THIS PAGE

[Full Marks : 70

(Multiple Choice Type Questions)

- 6742 (09 / 06)



v) The function of petrol tap is to

- | | |
|------------------------------|-------------------------|
| a) filter the fuel | b) regulate fuel supply |
| c) reserve a portion of fuel | d) all of these. |



vi) Two-stroke engine employs

- a) pressurized lubrication system
- b) crankcase lubrication system
- c) mist lubrication system
- d) none of these.

vii) Purpose of lubricating oil is

- | | |
|-------------|------------------|
| a) cooling | b) lubrication |
| c) cleaning | d) all of these. |

viii) The function of charging coil is to

- | | |
|-------------------------|--------------------|
| a) generate electricity | b) control voltage |
| c) store electricity | d) none of these. |

ix) Which type of suspension spring is used in two wheelers ?

- | | |
|----------------|-------------------|
| a) Leaf spring | b) Coil spring |
| c) Torsion bar | d) None of these. |

x) Rear wheel of two wheelers uses

- | | |
|-------------------|------------------|
| a) Disc brake | b) Drum brake |
| c) Magnetic brake | d) all of these. |

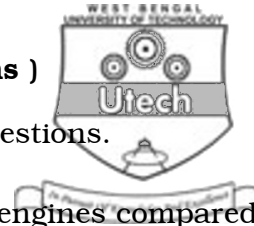


5
GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following questions.

3 × 5 = 15



2. Write the advantages and disadvantages of two-stroke engines compared to four stroke engines.
3. Explain the various scavenging pumps used in two stroke engines. Why ?
4. What is the mist lubrication system ? What are the requirements and functions of lubrication oil ?
5. How is a spark plug specified ? What is the difference between a heater plug and spark plug ?
6. What are the different circuits used in a carburetor ? State their functions.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following questions.

3 × 15 = 45

7. Draw the sketch of two stroke engine and label its parts. With the help of timing diagram, explain its working.

A diesel engine has a compression ratio of 20 and cut-off takes place at 5% of the stroke. Find the air standard efficiency and power output.

8. Write short notes on the following :

- a) Delivery ratio
- b) Trapping efficiency
- c) Scavenging efficiency
- d) Charging efficiency.

Explain the three theoretical scavenging processes. How does the actual scavenging process differ with theoretical one ?



9. A two stroke SI engine having a cylinder volume of 1100 c.c. and compression ratio 8, runs at 2800 rpm. The exhaust pressure is 1.07 bar and inlet temperature is 37°C. Scavenging efficiency is 0.5. Calculate the trapping efficiency, delivery ratio for a charge flow of 4 kg/min. If brake thermal efficiency is 0.25, fuel-air ratio is 0.068, calculate brake power and brake specific fuel consumption (*bsfc*). Also calculate short-circuiting loss per hour. Take calorific value of fuel as 45 MJ/kg.
10. What is 'Gravity Feed System' with reference to 2 w and 3 w fuel systems. List the main parts and describe their functions. What are its differences with 'Forced Feed System' ?
11. With the help of block diagram, explain the working of magneto-ignition system. Describe the different parts of the system and their functions.

END