

Code No: RR210105

RR

Set No. 2

II B.Tech I Semester Examinations, November 2010  
MECHANICAL AND ELECTRICAL SCIENCE  
Civil Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions  
All Questions carry equal marks

\*\*\*\*\*

1. (a) Name the different types of milling machines used in industry and write their applications.  
(b) What are the common operations done on a drilling machine? State their uses. [6+10]
2. (a) What are different methods of improving the output of a Power Shovel ?  
(b) What are the advantages of Screw Conveyors over other Conveyors? [10+6]
3. Explain the construction of a DC machine with a neat sketch. [16]
4. (a) Distinguish clearly between a petrol engine and a diesel engine.  
(b) Explain the working of two stroke cycle I.C. engine. [6+10]
5. Explain briefly the operation of a transformer and sketch the phasor diagram on no load. [16]
6. From the following test results determine the regulation of a 2 KV single phase alternator delivering a current of 100 A at 0.8 Pf lagging. Test results: full load current of 100 A is produced on short circuit by a field excitation of 2.5 A. An emf of 500V is produced on open circuit by the same excitation. The armature resistance is 0.8 ohms. [16]
7. (a) What is the difference between air-cooling and air-conditioning?  
(b) Explain in detail the important factors on which the comfort feeling of people in an air-conditioned space depends. [4+12]
8. Explain the various characteristics of d.c motors? [16]

\*\*\*\*\*

Code No: RR210105

RR

Set No. 4

II B.Tech I Semester Examinations, November 2010  
MECHANICAL AND ELECTRICAL SCIENCE  
Civil Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions  
All Questions carry equal marks

\*\*\*\*\*

1. (a) Distinguish clearly between a petrol engine and a diesel engine.  
(b) Explain the working of two stroke cycle I.C. engine. [6+10]
2. Explain the various characteristics of d.c motors? [16]
3. (a) Name the different types of milling machines used in industry and write their applications.  
(b) What are the common operations done on a drilling machine? State their uses. [6+10]
4. (a) What is the difference between air-cooling and air-conditioning?  
(b) Explain in detail the important factors on which the comfort feeling of people in an air-conditioned space depends. [4+12]
5. From the following test results determine the regulation of a 2 KV single phase alternator delivering a current of 100 A at 0.8 Pf lagging. Test results: full load current of 100 A is produced on short circuit by a field excitation of 2.5 A. An emf of 500V is produced on open circuit by the same excitation. The armature resistance is 0.8 ohms. [16]
6. Explain the construction of a DC machine with a neat sketch. [16]
7. Explain briefly the operation of a transformer and sketch the phasor diagram on no load. [16]
8. (a) What are different methods of improving the output of a Power Shovel ?  
(b) What are the advantages of Screw Conveyors over other Conveyors? [10+6]

\*\*\*\*\*

Code No: RR210105

RR

Set No. 1

II B.Tech I Semester Examinations, November 2010  
MECHANICAL AND ELECTRICAL SCIENCE  
Civil Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions  
All Questions carry equal marks

\*\*\*\*\*

1. (a) What is the difference between air-cooling and air-conditioning?  
(b) Explain in detail the important factors on which the comfort feeling of people in an air-conditioned space depends. [4+12]
2. Explain briefly the operation of a transformer and sketch the phasor diagram on no load. [16]
3. (a) What are different methods of improving the output of a Power Shovel ?  
(b) What are the advantages of Screw Conveyors over other Conveyors? [10+6]
4. From the following test results determine the regulation of a 2 KV single phase alternator delivering a current of 100 A at 0.8 Pf lagging. Test results: full load current of 100 A is produced on short circuit by a field excitation of 2.5 A. An emf of 500V is produced on open circuit by the same excitation. The armature resistance is 0.8 ohms. [16]
5. Explain the various characteristics of d.c motors? [16]
6. (a) Distinguish clearly between a petrol engine and a diesel engine.  
(b) Explain the working of two stroke cycle I.C. engine. [6+10]
7. (a) Name the different types of milling machines used in industry and write their applications.  
(b) What are the common operations done on a drilling machine? State their uses. [6+10]
8. Explain the construction of a DC machine with a neat sketch. [16]

\*\*\*\*\*

Code No: RR210105

RR

Set No. 3

II B.Tech I Semester Examinations, November 2010  
MECHANICAL AND ELECTRICAL SCIENCE  
Civil Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions  
All Questions carry equal marks

\*\*\*\*\*

1. (a) Distinguish clearly between a petrol engine and a diesel engine.  
(b) Explain the working of two stroke cycle I.C. engine. [6+10]
2. Explain briefly the operation of a transformer and sketch the phasor diagram on no load. [16]
3. (a) What are different methods of improving the output of a Power Shovel ?  
(b) What are the advantages of Screw Conveyors over other Conveyors? [10+6]
4. Explain the construction of a DC machine with a neat sketch. [16]
5. From the following test results determine the regulation of a 2 KV single phase alternator delivering a current of 100 A at 0.8 Pf lagging. Test results: full load current of 100 A is produced on short circuit by a field excitation of 2.5 A. An emf of 500V is produced on open circuit by the same excitation. The armature resistance is 0.8 ohms. [16]
6. Explain the various characteristics of d.c motors? [16]
7. (a) Name the different types of milling machines used in industry and write their applications.  
(b) What are the common operations done on a drilling machine? State their uses. [6+10]
8. (a) What is the difference between air-cooling and air-conditioning?  
(b) Explain in detail the important factors on which the comfort feeling of people in an air-conditioned space depends. [4+12]

\*\*\*\*\*