

GOVERNMENT OF DELHI  
**BOARD OF TECHNICAL EDUCATION**  
MUNI MAYA RAM MARG  
PITAMPURA: DELHI- 110088

**CIRCULAR**

**Sub:- Implementation of Revised pattern of Question Paper w.e.f May/June-2013-reg.**

The Board of Technical Education is going to implement the revised pattern of Question papers from forthcoming Diploma level Engg. & Non-Engg. Semester Examination i.e. w.e.f May/June-2013. The revised pattern of question paper will contains Part 'A' & Part 'B', having 40% and 60% weightage respectively. Both the parts are compulsory.

The details of question papers having maximum marks 100 are given below: -

1. Part A will contain two questions:-
  - (a) Question 1, will have 14 parts (short Question) of 2 marks each, among which 10 questions will be compulsory. These should be of short answer questions, containing definition, fill in the blanks, relation among, difference between, advantages/disadvantages etc.
  - (b) Question 2 will comprise of 8 question of 4 marks each, among which 5 questions will be compulsory.
2. Part B of question paper will comprise of five questions of 20 marks each. Each question may have two parts, containing descriptive questions, including numerical, wherever applicable. Out of these 05 questions, three questions will be compulsory in this part.

In the question papers which do not carry max. marks 100, the breakup of marks and number of questions in Part 'A' & Part 'B' will be kept proportionately.

The above Quoted revised pattern will be followed in all subjects, however, the trend of question paper in some subjects, where implementation of new pattern is not possible, will be kept as per the existing pattern Information regarding subjects in which the old pattern of question papers will be followed, will be informed in due course.

A specimen format of question paper on revised pattern is enclosed for ready reference.

Contd...2/-

Further A guideline regarding attempting of question should be issued to all the students i.e. questions of Part-A should be attempted in the first 5 pages of the answer sheet and Part-B should be attempted in the rest of the pages.

You are requested kindly to inform all the faculties & students of your institute regarding revised pattern of question papers, which is going to be implemented from the forthcoming semester Examination May/June – 2013 and a copy of this circular may also be affixed prominently on the notice board of your institute. The Ex- students may also be informed at the time of submission of examination form.

Encl: As above

  
(S.P. SINGH)  
CONTROLLER

NO.F.5(5)/87/BTE/P.File/ 575

DATED: 15-3-13

To

1. Principal, All the Polytechnics.
2. Registrar
3. OSD(BTE)/(Exam)
4. Asst. Registrar.
5. Programmer/Asst. Programmer with the request to upload this Circular on the web-site of the DTTE.
6. Guard file.
7. Notice Board.

Pl upload

  
21/3/13

Mrs. Sushma

May/June 2013-14

**BASIC ELECTRICITY**

Time: 3 Hours

Max. Marks: 100

**Note:**

1. 'Part A' may be attempted in first 5 page of Answer Sheet.
2. 'Part B' in rest of the Sheets of Answer Sheet.

**PART - A**

**Q.N. 1 Attempt any 10 Questions.**

**10X2=20**

- 1) What is the difference between AC and DC
- 2) Give the Units of Work, Power
- 3) State Ohms Law.
- 4) State Lenz's Law.
- 5) Define Resonance.
- 6) State Fleming's Right Hand Rule
- 7) What is a Primary and secondary Cell?
- 8) What is a Solar Cell? Give its applications.
- 9) What is the practical significance of power factor
- 10) Define hysteresis.
- 11) Define Permeability.
- 12) State Kirchhoff's current law.
- 13) What are a conductor & Semiconductor?
- 14) What is potential difference?

**Q.N.2 Attempt any 5 Questions.**

**5X4=20**

- 1) What is electrical energy? Give its advantages and applications.
- 2) Give different methods to take care of lead acid battery.
- 3) Explain with the diagram the formation of Hysteresis loop.
- 4) Explain the constant current method of charging of a battery.
- 5) Show that when a number of resistances are connected in series, the total resistance is equal to the sum of individual resistances.
- 6) How will you apply Thevenin theorem to solve a D.C circuit. Explain.
- 7) What is the similarity between electrical circuit and magnetic circuit?
- 8) Write short note on energy stored in the magnetic field?

Contd.2/...

**PART - B**

Attempt any 3 questions.

3X20=60

- Q.N.3 (a) State Coulombs law for force between two points charges & derive the expression for the same. Also define the unit chare in SI System.
- b) A parallel plate capacitor has plates 0.15m apart & dielectric with relative permihivity of 3.0. Find electric field intensity and the voltage between plates if the surface charge is  $5 \times 10^{-4} \text{ MC/cm}^2$ .
- Q.N 4 (a) Explain Basic Principle of heating effect of Electrical circuit. Also explain two application of heating effect of Electric Current.
- b) An electric heater is required to heat 15 liters of water from  $15^{\circ}\text{C}$  to the boiling point in 40 minutes. Assume the efficiency of heater to be 80%. Calculate (i) Energy consumed in MJ (ii) The cost of energy consu8med if the charges are Rs. 5.0/KWH, assume 1 calorie = 4.2 joules.
- Q.N.5 (a) Explain with the held of diagram the basic principle & working of a moving coil galvanometer.
- b) A moving coil ammeter has a fixed shut of  $0.02 \Omega$ , the coil circuit resistance of  $R = 1 \text{ k} \Omega$  and needs potential difference of 0.5 V across it for fall scale deflection.
- Q.N.6 (a) What is Delta-Star Connection? Mention the comparison of both.
- b) The voltage & current through a circuit element are: -  
 $V = 40 \sin(314t + 55^{\circ})$  volts  
 $i = 10 \sin(314t + 325^{\circ})$  ampere  
Find the value of Power drawn by the element.
- Q.N 7 (a) Describe the Faraday's Law of Electromagnetic Induction. Mention its applications.
- (b) Prove that Power consumed in pure inductive circuit is Zero.