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SF-8369

B. E. - III (Sem. - VI) (T.T.) Examination

May/June – 2011

Energy Conservation & Pollution Control in Textile Industry

(New Syllabus)

Time : **3** Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ B. E. - 3 (SEM. - 6) (T.T.)

Name of the Subject :

☛ ENERGY CONSERVATION & POLLUTION CONTROL IN TEXTILE INDUSTRY (NEW SYLLABUS)

☛ Subject Code No. : 8 3 6 9 ☛ Section No. (1, 2,.....) : 1&2

Seat No. :

Student's Signature

(2) Answers to the two sections must be written in same answer books.

(3) Figures to the **right** indicate full marks.

SECTION - I

1 (a) Answer the following objective questions : **10**

(i) Define Energy. **1**

(ii) Write main two segments, at which we can conserve power during Processing. **2**

(iii) Spindle consumes _____% of power in the Ring Frame components. **1**

(iv) State any two ancillary powers of Ring Frame. **2**

(v) In solvent sizing system, _____ are used instead of water. **1**

(vi) State any two novel techniques of heat transfer used for WHR systems. **2**

(vii) In wet processing, _____ process uses a mixture of surfactants and solvents as scouring agent in place of alkalies. **1**

(b) Why energy conservation is required ? Explain in detail. **10**

2 (a) Describe in detail Energy scene in India. **10**

(b) Explain in detail Preliminary and detailed Audit. **5**

OR

2 (a) Describe in detail Energy Conservation in Sizing. **10**

(b) Explain in detail Motor efficiency and power consumption. **5**

3 Write short notes on any three of the following : **15**

(a) Energy and Environment.

(b) Designing an Audit.

(c) National demand and Industrial demand of energy.

(d) Financial incentives for energy.

SECTION - II

4 (a) Answer the following objective questions : **10**

(i) _____ method uses steam jet to displace air entrapped in the fabric with steam in wet processing. **1**

(ii) _____ is the second largest power consumption component in a textile mill and is next to spinning. **1**

(iii) Solar energy assisted process, in which a single stage desizing, scouring and bleaching is carried out in _____ . **1**

(iv) In wet processing, _____% savings in steam generator and _____% savings in steam utilisation are possible by simple conservation measures by modified instruments. **2**

(v) State any two advantages of Foam Sizing. **2**

(vi) Noise levels in the textile industry in India usually range from about _____ DBA. **1**

(vii) Textile mills cause air pollution by discharging the chimney gases of the _____ . **1**

(viii) Water pollution by the textile mills is mainly attributed to the _____ discharged from the wet processing operations **1**

(b) State different Waste heat recovery systems. Explain any one system in detail. **10**

5 (a) Explain in detail about Energy conservation in Humidification. **10**

(b) Write down in detail different ways to conserve energy in Lighting **5**

OR

5 (a) Discuss briefly about various types of pollution in textile industry. **10**

(b) State various types of air pollution control equipments. Discuss any one in detail. **5**

6 Write short notes on any three of the following : **15**

(a) Major operations causing excessive Water pollution.

(b) Hazardous waste and its generation.

(c) Effects of noise on weavers.

(d) Disposal of waste water.
