

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII (OLD) - EXAMINATION – SUMMER 2017

Subject Code: 172905

Date: 11/05/2017

Subject Name: Fibre Science & Elements of Textile Structure

Time: 02:30 PM to 05:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a) Write in brief about Heats of sorption in fibres. 07
(b) Derive equations to calculate fabric porosity. 07
- Q.2 (a) Derive the equations for warp and weft cover factor. 07
(b) Discuss in detail about fundamental structural features of yarn. 07
- OR**
- (b) Write short note on: Analysis by Correlogram. 07
- Q.3 (a) Describe Hamilton method of Coil Winding. 08
(b) What are the parameters to characterize the Migration? 06
- OR**
- Q.3 (a) Discuss in detail the experimental work of Morton & his associates. 10
(b) Give the reasons for Differential Migration. 04
- Q.4 (a) Explain in brief Nuclear Magnetic Resonance Technique for investigating fibre structure. 04
(b) Discuss the technical significance of Swelling in fibres & its measurement. 10
- OR**
- Q.4 (a) How Infra-red Radiations can be used for investigating fibre structure? 07
(b) Write in brief about “Order & Disorder in fibre structure”. 07
- Q.5 (a) Derive the relationship between k & d/p . 07
(b) Discuss the effect of finishing process on Crimp. 07
- OR**
- Q.5 (a) Derive the equation for weight factor. 08
(b) Draw only diagram for Pierce geometry of Plain weave for general case. 06
