# TT L222 Yarn Manufacture II
## Major

Date: 07.05.2007 Time: 2 hrs Total Marks: 40

***Answer all questions***

$2 \times 4 = 8$

1. Describe the influence of the following parameters on combing operation and product quality,
   - i) Defective feed lap
   - ii) Type of feed, i.e. backward feed and forward feed
   - iii) Feed per nip
   - iv) Detachment setting

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2. A 120 spindle roving frame, producing 100% cotton roving from 4.87 ktex combed sliver, running at 96% efficiency with empty and full bobbin diameters 50mm and 150mm respectively. Calculate the productivity of the roving frame in kg/hr.
   [Consider: The initial and final bobbin speeds are 1318 rpm and 1106 rpm respectively, Break draft is 1.11, Main zone draft is 9.0]

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3. What is spinning geometry? Explain the impact of various spinning geometrical parameters on spinning operation and the resulting yarn quality.

$2 \times 4 = 8$

4. With suitable diagrams describe the principles and impact of following components/terms in a modern ring frame,
   - i) Variator drive
   - ii) Angle of lead (angle of yarn pull)
   - iii) Zellweger RINGDATA system
   - iv) Building mechanism of curved base of ring cop.

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5. A 20 head friction spinning machine, running at 98% efficiency, is producing 10 Ne cotton yarn of 350 twist/m. The friction drum speed and diameter are 4000 rpm and 50 mm respectively. Calculate the productivity of the machine in kg/hr.
   [Consider: Specific volume of the yarn is 1.1 cc/g, Twist efficiency factor is 0.15]