

Exam Question 2: Short essay + calculation (10 points)

Your task is to design and calculate suitable coating formulation batches for

- a) Offset printing
- b) Rotogravure printing

I) Explain first what are the requirements coming from these printing methods to the coated surface.

II) Design and calculate suitable coating formulation batches for the above these printing methods

The dry pigment amount in both of the batches is 3000 kg.

The components available for the coating formulation preparation are listed in the table below.

Component	Dry solids (%)
Kaolin	69
CaCO	74
Talc	69
SB-latex	51
Acrylate-latex	52
Starch	35
CMC	20
Hardener	15
Lubricant	18
Optical brightener (OBA)	18

Prepare suitable coating colour formulations for the above mentioned printing end uses (a and b) and justify your choices. Make the coating colour calculation in the similar way you have done in the virtual coating lab exercise. All additions (binders, cobinder, additives) are calculated against the pigment amounts (equaling 100 pph). Try to maximize the solids content of the coating formulation while maintaining reasonable amount of binder and binding power in the formulation.