

Q.1 a) Knife cut }
Shear cut } Each 1 M
Burst cut }

Diagram - 2 M.

b) 1. Embossing

- Creates raised image by pressing b/w 2 dies - 1 M
- One die in relief, other in recess - $\frac{1}{2}$
- Often used in high quality jobs - $\frac{1}{2}$
- Eg - $\frac{1}{2}$

2. Foiling

- Relief printing process.
 - Transferring a thin layer of metallic tone using heat & pressure
 - Gold, metallic, silver foils are used.
 - Proper image transfer depends on amt. of heat & pressure.
 - Eg -
- Each pt - $\frac{1}{2}$ M.

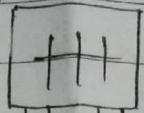
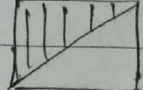
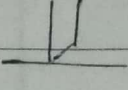
- c)
- PS adhesives sticks to the substrate through the use of slight pressure
 - PS label construction : Facestock / Adhesive / Release coating / Release liner.
 - Any 1 adv.
 - Any 1 disadv.
 - Appln
- Each pt - $\frac{1}{2}$ M.

- d)
- Ink opacity - opaque inks hide underlying inks - 1
 - Ink transparency - Transparent inks combine with underlying inks - 1
 - Ink coverage - Amt. of ink covered on the particular area of the substrate - 2
 - Ink tack - stickiness of ink which allows overlapping - 1

Q.2. a) Longitudinal cutting of web - knife, shear & burst.
 Cross cutting of web - simple, rotary
 Explanation - 3M
 Diagram - 2M.

b) coating cost for 12,000 copies = ₹ 67,500

c) checking of image of the plate before mounting. - 1M
 - Types of soft and hard proof. - 2M
 - Mistakes to consider in a proof: - text matter, font size, imposition & layout. - 2M.

Q.3. a) 1.  2.  3.  4.  5. 
 Each 1M.

b) Total cost = ₹ 466,300 - 2M.
 Cover cost = ₹ 97,300 - 4M
 Inside cost = ₹ 3,69,00. - 4M

c) 4-colour - CMYK
 s and colour depends on screen angle and ink coverage
 7, 5 colour - 2M each, 4 colour - 1M.

Q.4. a) 1) Ink is stored on a donor & is transferred to the substrate by applⁿ of heat - 1M.

- Large quantity of ink is transferred - 1/2
 - Ink on the donor may be wax or special polymer resin - 1/2
 - Eg - 1/2.

b) Punching - Paper is punched during off press so that it can be put into binders, special drills are used. - 1.5M

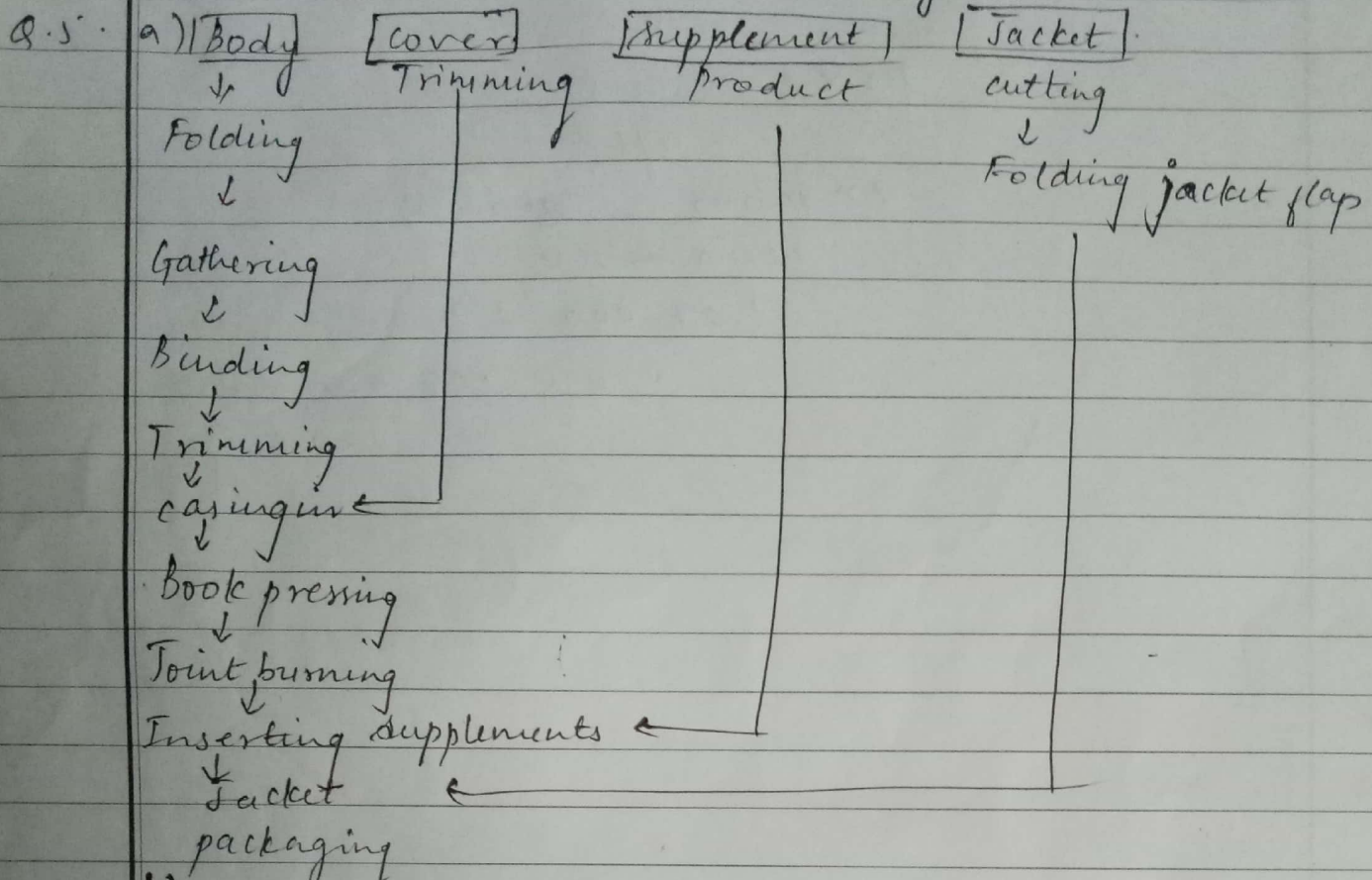
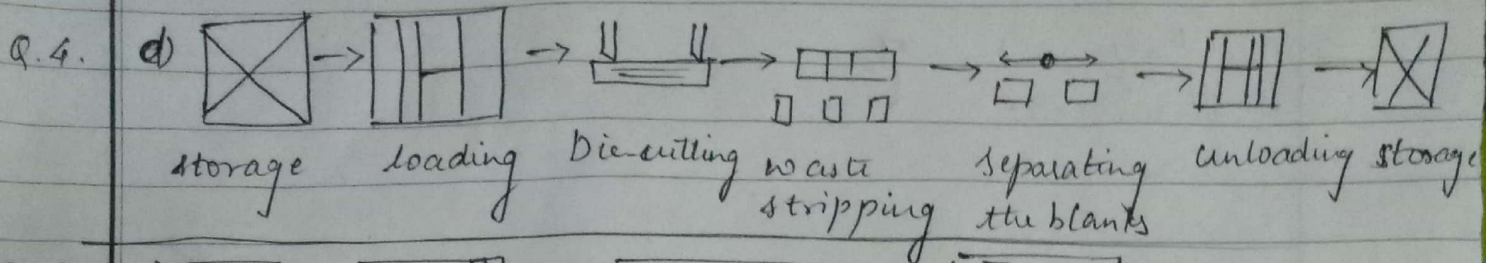
Die-cutting - It is a process in which materials are cut in a special & specific pattern; Types - flatbed, rotary, magnetic - 2M.

Perforating - Used to create a tearing reference, Punching a dotted line. - 2M

c) Bundling - Piles of some 50cm in ht. are formed;
 Bound with a PP tape when pressed in a compressed state.

Gathering - Producing an unbound block of independently produced & folded sheets of a book in a correct sequence. - 1.5M

Collating marks - Printed in the ^{back} edge of the signature. - 2M.



b) Total wt. of the reel =

b) work & tumble, Front & back, work & turn

c) Total wt. of the reel = $\frac{\text{web width} \times \text{meterage for whole job}}{10^6} \times 9.8 \text{ m}$
 $= 15.18 \text{ tons.}$

- Q.6. a) Sheet-fed :- Parallel, perpendicular, combination - $2\frac{1}{2} \text{ M}$
 web-fed :- chopper fold, former fold, jaw fold - $2\frac{1}{2} \text{ M}$
 b) substrate / surface texture
 shape of the substrate surface
 Method of label application
 Based on adhesive classification
 Based on exposure conditions
 - Each 1 M.
 c) wt. of reel of paper = 464.5 kg

Q.4.a.2) Direct transfer requires a heat sensitive label material. Print head come in direct contact with the heat sensitive material - $2\frac{1}{2} \text{ M}$.