LAMPIRAN

Lampiran 1. Perhitungan Pengujian Tinta

a) Uji Densitas

Parameter	Variasi Sampel	Massa Piknometer Kosong (gr)	Massa Piknometer Isi (gr)	Massa Tinta (gr)	Volume Sampel (ml)	Densitas Tinta (g/cm^3)
Uji Densitas	A_5	34,747	86,138	51,391	50	1,027
	B_{10}		87,064	52,317		1,046
	C_{15}		86,648	51,901		1,038
	D_{20}		87,827	53,08		1,06
	E_{25}		88,412	53,665		1,073

Rumus densitas (massa jenis): $\rho = \frac{M\ (gram)}{V\ (ml)}$

1) Sampel A_5

$\rho = \frac{Massa\ tinta\ (gram)}{Volume\ tinta\ (ml)}$

$= \frac{51{,}391\ gr}{50\ ml}$

= 1,027 g/cm^3

2) Sampel B_{10}

$\rho = \frac{Massa\ tinta\ (gram)}{Volume\ tinta\ (ml)}$

$= \frac{52{,}317\ gr}{50\ ml}$

= 1,046 g/cm^3

3) Sampel C_{15}

$\rho = \frac{Massa\ tinta\ (gram)}{Volume\ tinta\ (ml)}$

$= \frac{51{,}901\ gr}{50\ ml}$

= 1,038 g/cm^3

4) Sampel D_{20}

$$\rho = \frac{Massa\ tinta\ (gram)}{Volume\ tinta\ (ml)}$$

$$= \frac{53{,}08\ gr}{50\ ml}$$

$$= 1{,}06\ g/cm^3$$

5) Sampel E_{25}

$$\rho = \frac{Massa\ tinta\ (gram)}{Volume\ tinta\ (ml)}$$

$$= \frac{53{,}655\ gr}{50\ ml}$$

$$= 1{,}073\ g/cm^3$$

b) Uji Viskositas

Parameter	Variasi Sampel	Viskositas Aquades suhu 30°C (cP)	Waktu Alir Aquades (s)	Densitas Aquades (g/cm^3)	Waktu Alir Tinta (s)	Densitas Tinta (g/cm^3)
Uji Viskositas	A_5	1,61	2,08	0,995	3,22	1,027
	B_{10}				5,225	1,046
	C_{15}				15,8	1,038
	D_{20}				31,52	1,06
	E_{25}				32,1	1,073

Rumus viskositas (kekentalan): $n = n_0 \frac{t.\rho}{t_0.\rho_0}$

1) Sampel A_5

$$n = n_0 \frac{t.\rho}{t_0.\rho_0}$$

$$= 1{,}61\ cP \frac{3{,}22\ s\ .\ 1{,}027\ g/cm3}{2{,}08\ s\ .\ 0{,}995\ g/cm3}$$

$$= 1{,}61\ cP \frac{3{,}306}{2{,}069}$$

$$= 3{,}332\ cP$$

2) Sampel B_{10}

$$n = n_0 \frac{t.\rho}{t_0.\rho_0}$$

$$= 1{,}61 \text{ cP} \frac{5{,}225\ s\ .\ 1{,}046 \text{ g/cm3}}{2{,}08\ s\ .\ 0{,}995 \text{ g/cm3}}$$

$$= 1{,}61 \text{ cP} \frac{5{,}465}{2{,}069}$$

$$= 4{,}252 \text{ cP}$$

3) Sampel C_{15}

$$n = n_0 \frac{t.\rho}{t_0.\rho_0}$$

$$= 1{,}61 \text{ cP} \frac{15{,}8\ s\ .\ 1{,}038 \text{ g/cm3}}{2{,}08\ s\ .\ 0{,}995 \text{ g/cm3}}$$

$$= 1{,}61 \text{ cP} \frac{16{,}4}{2{,}069}$$

$$= 7{,}926 \text{ cP}$$

4) Sampel D_{20}

$$n = n_0 \frac{t.\rho}{t_0.\rho_0}$$

$$= 1{,}61 \text{ cP} \frac{31{,}52\ s\ .\ 1{,}06 \text{ g/cm3}}{2{,}08\ s\ .\ 0{,}995 \text{ g/cm3}}$$

$$= 1{,}61 \text{ cP} \frac{33{,}411}{2{,}069}$$

$$= 16{,}148 \text{ cP}$$

5) Sampel $E2_5$

$$n = n_0 \frac{t.\rho}{t_0.\rho_0}$$

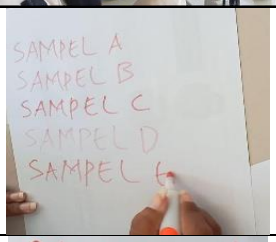
$$= 1{,}61 \text{ cP} \frac{32{,}1\ s\ .\ 1{,}073 \text{ g/cm3}}{2{,}08\ s\ .\ 0{,}995 \text{ g/cm3}}$$

$$= 1{,}61 \text{ cP} \frac{34{,}443}{2{,}069}$$

$$= 16{,}647 \text{ cP}$$

Lampiran 2. Dokumentasi Penelitian

No	Uraian Kegiatan	Dokumentasi
1.	Mencari limbah daun ketapang laut	
2.	Menghaluskan limbah daun ketapang laut	
3.	Memulai ekstraksi limbah daun ketapang laut	
4.	Penyaringan ekstrak daun ketapang	
5.	Menimbang bahan-bahan pendukung pembuatan limbah daun ketapang laut	
6.	Proses pembuatan tinta dari limbah daun ketapang laut	
7.	Melakukan uji densitas sampel tinta	

8.	Melakukan uji viskositas sampel tinta	
9.	Melakukan uji waktu kering sampel tinta	
10.	Melakukan uji pigmen sampel tinta