

PERKARA : KADAR CAJ PERKHIDMATAN DI UNIT TEKNOLOGI FERMENTASI (FTU),  
PUSAT PENYELIDIKAN BIOPEMROSESAN DAN BIOPENGHASILAN,  
FAKULTI BIOTEKNOLOGI DAN SAINS BIOMOLEKUL, UNIVERSITI PUTRA  
MALAYSIA

KEPUTUSAN : BIL. 1 (2016) 28 MAC 2016  
JAWATANKUASA TETAP  
KEWANGAN (JKTK)

MINIT : MINIT 25/1 (2016)

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### Analisis Sampel

Bil	Item	Kadar (RM / Sampel)	
		UPM	Agensi Luar
1	High Performance Liquid Chromatography (Waters) with Fluorescence Detector	80.00	90.00
2	High Performance Liquid Chromatography (Waters) with Refractive Index Detector	80.00	90.00
3	Gas Chromatography (Agilent 6895); equipped with auto sampler, EPC Capillary Inlet System, GC Data Station and Operating Software	70.00	80.00
4	Automatic Micro Kjedahl	50.00	60.00
5	Glucose Analyzer	15.00	20.00
6	Rheometer (Brookfield)	75.00	80.00

### Sistem Bioreaktor (Skala Makmal)

Bil	Item	Kadar (RM / Hari)	
		UPM	Agensi Luar
1	Stirred Tank Bioreactor System (B. Braun Biostat B2)	200.00	250.00
2	Stirred Tank Bioreactor System (B. Braun Biostat B-DCU)	400.00	450.00
3	Airlift Tank Bioreactor (B. Braun Biostat B2)	200.00	250.00

### Sistem Bioreaktor (Skala Loji Pandu)

Bil	Item	Kadar (RM / Hari)	
		UPM	Agensi Luar
1	Stirred Tank Bioreactor System (B. Braun Biostat C2)	350.00	400.00
2	Airlift Tank Bioreactor (B. Braun Biostat C10)	350.00	400.00
3	Stirred Tank Bioreactor System (B. Braun Biostat D50)	550.00	650.00
4	Stirred Tank Bioreactor System (B. Braun Biostat D100)	800.00	950.00
5	Stirred Tank Bioreactor System (B. Braun Biostat D300)	950.00	1,100.00

### Kemudahan Pengumpulan Kultur

Bil	Item	Kadar (RM / Sampel)	
		UPM	Agensi Luar
1	Kultur bakteria Gram Positif untuk Tujuan Pengajaran	80.00	100.00
2	Kultur Bakteria Gram Negatif untuk Tujuan Pengajaran	80.00	100.00
3	Penentuan jumlah mikro organisma (Total Plate Count)	100.00	120.00

### Kemudahan Pemprosesan Hiliran

Bil	Item	Kadar (RM / Hari)	
		UPM	Agensi Luar
1	Pengering Sejuk Beku Loji Pandu (Martin Christ)	250.00	300.00
2	Sistem Penuras Membran Aliran Tangen Loji Pandu (Proflux, Millipore)	550.00 / operasi	650.00 / operasi
3	Pengwap Berputar Loji Pandu (Rotovap R220, Buchi)	450.00	500.00
4	Pengering Sembur (Buchi)	350.00	400.00
5	Pengempar Jenis Muncung Paip untuk Yis (Alfa Laval)	450.00	500.00
6	Pengempar Selanjar Skala Makmal (Alfa Laval)	500.00	550.00
7	Pengempar Selanjar Skala Pandu (Alfa Laval)	650.00	700.00

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