



UNIVERSITI MALAYSIA TERENGGANU

21030 Kuala Nerus, Terengganu, Malaysia

☎: +609-6684111

☎: +609-6684217

🌐: www.umt.edu.my

✉: pejabat.bendahari@umt.edu.my

PEJABAT BENDAHARI
BURSAR OFFICE

Rujukan kami : UMT/BEND/100-4/8 Jld.5 (7)

Tarikh : 13 April 2023

Bersamaan : 22 Ramadhan 1444H

Semua Ketua Pusat Tanggungjawab Universiti Malaysia Terengganu

Assalamualaikum & Salam Sejahtera

Y.Bhg. Dato' / Prof. / Tuan / Puan,

PEKELILING BENDAHARI BIL. 5 TAHUN 2023

KADAR CAJ PERKHIDMATAN MAKMAL DI BAWAH PENYELARASAN PUSAT PERKHIDMATAN PENYELIDIKAN DAN LAPANGAN (PPPL) UNIVERSITI MALAYSIA TERENGGANU (UMT)

1. TUJUAN

Pekeliling ini bertujuan untuk memaklumkan tentang kadar baharu perkhidmatan makmal di bawah penyelarasan Pusat Perkhidmatan Penyelidikan dan Lapangan (PPPL) UMT.

2. LATAR BELAKANG

2.1 Pekeliling yang telah dikeluarkan berkaitan kadar sewaan peralatan makmal adalah Pekeliling Bendahari Bil. 10 Tahun 2022 iaitu Kadar Sewaan Peralatan Makmal di Bawah Penyelarasan Pusat Perkhidmatan Penyelidikan dan Lapangan (PPPL) UMT.

- 2.2 Walaubagaimanapun, kadar yang dikenakan ini telah dibuat semakan bagi tujuan penyelarasan harga dan perkhidmatan antara semua makmal di UMT.
- 2.3 Semakan kadar bagi caj perkhidmatan makmal ini telah diluluskan oleh Jawatankuasa Penilaian Penjanaaan Pendapatan (JPPP) UMT kali Ke-8 (Bil. 1/2023) pada 28 Februari 2023.

3. KADAR CAJ PERKHIDMATAN MAKMAL

- 3.1 Kadar caj perkhidmatan makmal terhadap pengguna luar dan pengguna dalaman hanya terhadap aktiviti penyelidikan manakala pengajaran dan pembelajaran adalah percuma.
- 3.2 Kadar caj perkhidmatan makmal yang dikenakan adalah seperti berikut:
- a. Sewaan peralatan makmal seperti di **Lampiran 1**.
 - b. Kadar perkhidmatan analisis makmal seperti di **Lampiran 2**.
 - c. Kadar caj ruang di Fakulti Perikanan dan Sains Makanan (FPSM) seperti di **Lampiran 3**.
 - d. Kadar honorarium bagi kakitangan makmal yang menjalankan khidmat menganalisis sampel pihak luar (external) dan kadar harga bagi perkhidmatan kakitangan bagi makmal pengajaran UMT di luar waktu pejabat kepada pihak luar seperti di **Lampiran 4**.

4. **PEMBATALAN**

Dengan berkuatkuasanya pekeliling ini, Pekeliling Bendahari Bilangan 10 Tahun 2022 adalah dibatalkan.

5. **TARIKH KUATKUASA**

Pekeliling ini berkuatkuasa pemakaiannya mulai 28 Februari 2023.

Sekian, terima kasih.

"MALAYSIA MADANI"

"BERKHIDMAT UNTUK NEGARA"

Saya yang menjalankan amanah,



AZIZAH BINTI HASAN

Bendahari

Universiti Malaysia Terengganu

s.k:

1. Naib Canselor
2. Timbalan Naib Canselor (Akademik dan Antarabangsa)
3. Timbalan Naib Canselor (Hal Ehwal Pelajar dan Alumni)
4. Timbalan Naib Canselor (Penyelidikan dan Inovasi)
5. Penolong Naib Canselor (Hal Ehwal Korporat, Jaringan Industri dan Masyarakat)
6. Penolong Naib Canselor (Strategi dan Prestasi)
7. Fail



**KADAR CAJ PERKHIDMATAN MAKMAL
DI BAWAH PENYELARASAN PUSAT
PERKHIDMATAN PENYELIDIKAN
DAN LAPANGAN (PPPL)
UNIVERSITI MALAYSIA TERENGGANU (UMT)**

KADAR SEWAAN PERALATAN MAKMAL

NO.	EQUIPMENT	DESCRIPTION	UNIT	PRICE (RM)	
				INTERNAL	EXTERNAL
1	SCANNING ELECTRON MICROSCOPE (SEM)	1.Surface imaging 2.Elemental Analysis (EDS) 3. Auto Fine Coater 4.Vacuum Evaporator 5.EM Freeze Drier	<i>Per sample</i>	74.00 51.00 44.00 50.00 57.00	180.00 100.00 80.00 100.00 88.00
2	GAS CHROMATOGRAPHY (MASS SPECTROMETRY)	1.GC-MS (qualitative, QL & quantitative, QT)	<i>Per sample</i>	50.00	120.00
3	GAS CHROMATOGRAPHY (FID)	1.FID (QL/QT)	<i>Per Sample</i>	24.00	100.00
4	ION CHROMATOGRAPHY (IC)	6 CATION/ANION >7 CATION/ANION	<i>Per sample + standard</i>	25.00	100.00
5	HIGH PERFORMANCE LIQUID CHROMATOGRAPHY	Analysis preparative	<i>Per sample</i> <i>Per day</i>	30.00 150.00	90.00 300.00
6	THERMOGRAVIMETRY ANALYZER	1. TGA + DSC	<i>Per sample</i>	43.00	130.00
7	DIFFERENTIAL SCANNING CALORIMETER	DSC	<i>Per sample</i>	43.00	130.00
8	SURFACE AREA & POROSITY ANALYZER	1. BET (Meso) 2.BET (Mikro)	<i>Per sample</i> <i>Per sample</i>	110.00 160.00	260.00 400.00
9	FREEZE DRYER	To dry heat-sensitive sample	<i>Per day</i>	60.00	126.00
10	TOTAL ORGANIC CARBON ANALYZER	1.SOLID 2.LIQUID	<i>Per sample</i> <i>Per sample</i>	24.00 16.00	45.00 34.00
11	FORCE TENSIOMETER	To measure surface tension, interfacial tension and density of liquids.	<i>Per sample</i>	13.00	20.00
12	CHEMICAL DISCRETE ANALYZER	integrated platforms that provide two parallel measurement techniques	<i>Per sample + standard</i>	10.00	30.00

NO.	EQUIPMENT	DESCRIPTION	UNIT	PRICE (RM)	
				INTERNAL	EXTERNAL
13	NUCLEAR MAGNETIC RESONANCE (NMR)	1. Proton 1H	Per hour	43.00	66.00
		2. Carbon 13C	≤ 2 hours ≥ 2 hours	81.00	124.00
		3. 1H+13C	Per sample	122.00	188.00
		4. DEPT	≤ 4 hours Additional hours	96.00 10.00/ hour	148.00 15.00/ hour
		5. APT	≤ 4 hours Additional hours	96.00 10.00/ hour	148.00 15.00/ hour
		6. COSY	Per sample	122.00	188.00
		7. HMQC	Per sample	122.00	188.00
		8. HMBC	Per sample	122.00	188.00
		9. COSY + HMQC + HMBC	Per sample	334.00	514.00
14	MICROINJECTOR MANIPULATOR & RESEARCH FLUORESCENCE MICROSCOPE	To image specific features of small specimens	Per day	90.00	139.00
15	LIQUID CHROMATOGRAPHY MASS SPECTROMETRY TIME-OF-FLIGHT (LCMS-TOF)	Analytical analysis of ion's mass to charge ratio	Per sample	300.00	500.00
16	BACTERIA IDENTIFICATION SYSTEM	Microbial identification and antibiotic susceptibility testing	Per sample	60.00	120.00
17	UNIVERSAL TENSILE MACHINE (10 kN)	Measurements of stress and compression	Per sample	25.00	100.00
18	X-RAY DIFFRACTOMETER (XRD)	To assess the crystallinity and structure of solid samples	Per Sample	40.00	70.00
19	FOURRIER TRANSFORM INFRARED (FTIR)	Liquid & Solid	Per Sample	25.00	50.00
20	RHEOMETER	Rheology test	Per sample	27.00	50.00
21	PROTEIN DETERMINATION SYSTEM (KJED AHL)	Crude protein determination	Per sample	30.00	50.00

NO.	EQUIPMENT	DESCRIPTION	UNIT	PRICE (RM)	
				INTERNAL	EXTERNAL
22	FAT DETERMINATION SYSTEM	Crude fat determination	<i>Per sample</i>	30.00	50.00
23	CRUDE FIBRE DETERMINATION SYSTEM	Crude protein determination	<i>Per sample</i>	30.00	50.00
24	ICP-OES	Heavy metal and mineral	<i>Per sample with standard</i>	50.00	150.00
			<i>Per sample without standard</i>	25.00	80.00
25	ECHO SOUNDER EK15	Single beam	<i>Per day</i>	100.00	200.00
26	ECHO SOUNDER EK80	Dual beam	<i>Per day</i>	250.00	500.00
27	PRESICION CUTTER	Used in histopathology by fixing, dehydrating, clearing and infiltrating with parafin	<i>Per 15 samples</i>	30.00	60.00
28	MULTIPARAMETER (4 SERIES)	Water Quality	<i>Per day</i>	50.00	100.00
29	MULTIPARAMETER (6 SERIES)	Water Quality	<i>Per day</i>	100.00	200.00
30	SONDE MULTIPARAMETER WITH 10 M CABLE	Water Quality	<i>Per day</i>	80.00	160.00
31	SONDE MULTIPARAMETER WITH 2 M CABLE	Water Quality	<i>Per day</i>	80.00	160.00
32	C,H,N, S, O ANALYZER	Element C,H,N,S	<i>Per sample</i>	50.00	100.00
		Element O	<i>Per sample</i>	50.00	100.00

NO.	EQUIPMENT	DESCRIPTION	UNIT	PRICE (RM)	
				INTERNAL	EXTERNAL
33	CONTACT ANGLE ANALYZER	measurement contact angle, , surface free energy and surface tension	<i>Per sample</i>	25.00	100.00
34	INJECTION MOULDING	To produce sample in dumbbell form for testing	<i>Per hour</i>	25.00	100.00
35	ATOMIC FORCE MICROSCOPE (AFM)	User Imaging Technique for high resolution	<i>Per hour</i>	100.00	240.00
36	GAS CHROMATOGRAPHY (ECD)	To analyse halogenated compounds and is primarily used in the environmental	<i>Per Sample</i>	24.00	50.00
37	BOMB CALORIMETER	To determine calorie content in samples.	<i>Per sample</i>	30.00	50.00
38	CHROMAMETER	To measure the color of objects, particularly with smoother surface conditions or minimal color variation.	<i>Per sample</i>	10.00	30.00
39	BODY FAT ANALYZER	To measure body fat level	<i>Per day</i>	0.00	30.00
40	GLUKOMETER	To measure blood sugar levels	<i>Per day</i>	0.00	30.00
41	BLOOD PRESSURE MONITOR	To measure blood pressure level	<i>Per day</i>	0.00	30.00
42	STADIOMETER	To measure hemoglobin level in blood	<i>Per day</i>	0.00	30.00
43	HEMOGLOBIN PHOTOMETER	To measure hemoglobin level in blood	<i>Per day</i>	0.00	30.00
44	TEXTURE ANALYZER	To measure texture of sample	<i>Per 3 samples</i>	0.00	20.00
45	TISSUE PROCESSOR	Used in histopathology by fixing, dehydrating, clearing and infiltrating with parafin	<i>Per day</i>	50.00	100.00

NO.	EQUIPMENT	DESCRIPTION	UNIT	PRICE (RM)	
				INTERNAL	EXTERNAL
46	EMBEDDING MACHINE	Machine to produce paraffin embedded tissue blocks	<i>Per 15 samples</i>	30.00	60.00
47	MICROTOME MACHINE	To cutting/ slicing embedded tissue blocks	<i>Per 15 samples</i>	30.00	60.00
48	GEL DOCUMENTATION SYSTEM	To view and capture the gel bands	<i>Per day</i>	0.00	100.00
49	FAST PCR THERMAL CYCLER MACHINE	To amplify or copy small parts of DNA	<i>Per day</i>	0.00	100.00
50	PCR MACHINE	To amplify or copy small parts of DNA	<i>Per day</i>	0.00	100.00
51	SINGLE CHANNEL MICRO VOLUME SPECTROPHOTOMETER	To determine the average concentration of DNA or RNA in a sample	<i>Per day</i>	0.00	50.00
52	MULTI CHANNEL MICRO VOLUME SPECTROPHOTOMETER	To determine the average concentration of DNA or RNA in a sample	<i>Per day</i>	30.00	70.00
53	FEED PELLET EXTRUDER	To produce fish pellet.	<i>Per day</i>	100.00	200.00
54	TUBULAR CENTRIFUGAL	To separate collection herb extracts, plant fibers, chlorella and green algae.	<i>Per day</i>	100.00	200.00
55	MEASURING MICROSCOPE	To make measurement with support of software for measuring and capturing live image.	<i>Per day</i>	50.00	100.00
56	ATOMIC ABSORPTION SPECTROSCOPY (AAS)	To detects elements in either liquid or solid samples through the application of characteristic wavelengths of electromagnetic radiation from a light source	<i>Per sample</i>	20.00	50.00

NO.	EQUIPMENT	DESCRIPTION	UNIT	PRICE (RM)	
				INTERNAL	EXTERNAL
57	INDUCTIVELY COUPLE PLASMA MASS SPECTROMETER	Measuring Elements	<i>Per sample (ready to analysis)</i>	80.00	150.00
			<i>Per sample (labwork + analysis)</i>	-	350.00
58	MERCURY ANALYZER	Measure total mercury	<i>Per sample</i>	10.00	50.00
59	SKALAR AUTOANALYZER	Measuring nutrients and other inorganic elements.	<i>Per sample</i>	20.00	150.00
60	UV FLUORESCENCE SPECTROMETER	Measuring organic properties.	<i>Per sample</i>	10.00	50.00
61	UV-VIS SPECTROMETER	Measuring organic properties.	<i>Per sample</i>	10.00	50.00
62	MICROWAVE DIGESTER		<i>Per sample</i>	0.00	20.00
63	CURRENT METER (VALEPORT/308/)	measure flow current (mechanical)	Perday	80.00	120.00
64	DUAL FREQUENCY SIDE SCAN SONAR (GEO ACOUSTICS/LC MK II + GEO PRO)	underwater mapping instrument	Perday	150.00	500.00
65	SEABIRD CTD (SEA - BIRD ELECTRONICS)	water quality sensor up to 1200m depth	Perday	150.00	350.00
66	LAND SURVEY EQUIPMENT	Land survey equipment	Perday	50.00	120.00
67	ACOUSTIC CURRENT PROFILER	measure wave and current (acoustic)	Perday	100.00	500.00
68	FLOW METER	measure flow current (acoustic)	Perday	30.00	100.00
69	CURRENT METER	measure flow current (mechanical)	Perday	80.00	120.00
70	PORTABLE SILENT GENERATOR	generator (mini)	Perday	20.00	30.00
71	FLOW TRACKER HANDHELD	measure flow current (acoustic)	Perday	30.00	100.00
72	GENERATOR	generator (mini)	Perday	20.00	30.00
73	PORTABLE SIDE SCAN SONAR	underwater mapping instrument (mini)	Perday	30.00	100.00
74	ECHO SOUNDER	underwater mapping instrument (single beam)	Perday	300.00	600.00
75	UNDERWAY CTD	water quality sensor up to 1200m depth	Perday	150.00	350.00

NO.	EQUIPMENT	DESCRIPTION	UNIT	PRICE (RM)	
				INTERNAL	EXTERNAL
76	ACOUSTIC DOPPLER CURRENT PROFILER	measure wave and current (acoustic)	Perday	200.00	500.00
77	YSI IN SITU PORTABLE WATER QUALITY SENSOR WITH ANALYSIS SOFTWARE	portable water quality sensor	Perday	20.00	50.00
78	MULTI PARAMETER WATER QUALITY MONITORING INSTRUMENT	portable water quality sensor	Perday	100.00	200.00
79	OFFSHORE PLATFORM CTD VALEPORT	water quality sensor up to 1200m depth	Perday	120.00	320.00
80	MULTIBEAM ECHO SOUNDER R2SONIC/2020	underwater mapping instrument (2D)	Perday	400.00	2,000.00
81	DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS)	global positioning system	Perday	80.00	350.00
82	UNDERWATER TRACKING SYSTEM (USBL)	underwater tracking system	Perday	100.00	800.00
83	SIDE SCAN SONAR	underwater mapping instrument	Perday	150.00	500.00
84	MOTIC MICROSCOPE	Stereomicroscope	Perday	30.00	100.00
85	SINGLE CHANNEL PERISTALTIC PUMP	Peristaltic pump	Perday	50.00	150.00
86	KC DAY GRAB	Sediment sampler	Perday	50.00	250.00
87	LEICA COMPOUND MICROSCOPE (DME)	Compound microscope	Perday	30.00	100.00
88	MICROSCOPE ULTRA STABLE STAND EQUIPMENT AXIOSKOP 40FL		Perday	50.00	150.00
89	HIGH PERFORMANCE STEREOMICROSCOPE	Stereomicroscope	Perday	50.00	150.00
90	GRAB SMITH-MCINTYRE	Sediment sampler	Perday	50.00	250.00
91	MULTI TRAY BENTHOS SIEVE	Benthos sieve	Perday	50.00	150.00
92	MICROFILTRATION APPRATUS WITH STAINLESS SUPPORT & VACUUM PUMP IOLESS	Peristaltic pump	Perday	50.00	100.00

NO.	EQUIPMENT	DESCRIPTION	UNIT	PRICE (RM)	
				INTERNAL	EXTERNAL
93	BREATHING AIR COMPRESSOR	Air compressor for SCUBA tank	Perday	100.00	300.00
94	CTD ROSETTE WATER SAMPLER	Water quality and water sampler up to 1200m depth	Perday	100.00	2,000.00
95	HD HERO KAMERA STANDARD	Camera	Perday	80.00	180.00
96	ZODIAC INFLATABLE BOAT	Inflatable boat	Perday	50.00	250.00
97	PLANKTON NET SAMPLER	Phytoplankton sampler	Perday	20.00	100.00
98	PLANKTON NET SAMPLER	Zooplankton sampler	Perday	20.00	100.00
99	DIVING-PAM UNDERWATER FLUOROMETER	Underwater examinations of photosynthesis	Perday	50.00	200.00
100	GRAVITY CORER	Sediment core sampler	Perday	50.00	500.00
101	YSI PROFESSIONAL PLUS HANDHELD MULTIPARAMETER	Water quality	Perday	50.00	150.00
102	WATER SAMPLER JENAMA OCEAN TEST 110B-5L	Water sampler	Perday	10.00	150.00
103	MULTI CHANNEL PERISTALTIC PUMP	Peristaltic pump	Perday	70.00	170.00
104	PETITE PONAR GRAB	Sediment sampler (small size)	Perday	10.00	80.00
105	WATER SAMPLER	Water sampler	Perday	20.00	130.00
106	VACUUM PUMP	Peristaltic pump	Perday	10.00	50.00
107	OXYGEN METER	Oxygen Meter	Perday	15.00	75.00
108	WATER MONITORING SYSTEM	Eluen degasser	Perday	10.00	50.00
109	DIGITAL SMOKE STAIN REFLECTOMETER	Measures black carbon	Perday	25.00	125.00
110	HANNA INSTRUMENTS PORTABLE TURBIDITY METER	Turbidity meter	Perday	15.00	75.00

NO.	EQUIPMENT	DESCRIPTION	UNIT	PRICE (RM)	
				INTERNAL	EXTERNAL
111	YSI PROFESSIONAL PLUS HANDHELD MULTIPARAMETER	Water quality	Perday	20.00	100.00
112	PONAR GRAB STANDARD 9	Sediment sampler (medium saiz)	Perday	20.00	130.00
113	WATER SAMPLER , STANDARD B, 20.0 LITER MODEL 110 B-20	Water sampler	Perday	30.00	180.00
114	FILTRATION SET	Micro filter	Perday	10.00	50.00
115	SPEKTORADIOMETER (ASDI FIELDSPEC HANDHELD A103000/USA)	Alat pengukuran untuk mengukur panjang gelombang dan amplitud cahaya yang dipancarkan dari sumber cahaya di daratan.	Perday	100.00	400.00
116	ACOUSTIC WAVE AND ACOUSTIC CURRENT (AWAC)	Alat pengukuran untuk mengukur panjang gelombang dan amplitud cahaya yang dipancarkan dari sumber cahaya di dalam air	Perday	200.00	500.00
117	LIGHT METER	Alat pengukuran untuk mengukur panjang gelombang dan amplitud cahaya yang dipancarkan dari sumber cahaya di daratan dan di dalam air.	Perday	20.00	50.00
118	UNDERWATER HYPERSPECTRAL RADIANCE SENSOR	Alat pengukuran untuk mengukur panjang gelombang dan amplitud cahaya yang dipancarkan dari sumber cahaya di dalam air	Perday	60.00	350.00
119	LISST-25X SUSPENDED SEDIMENT SENSOR	Alat untuk mengukur jumlah keseluruhan saiz min dan 'coarse fraction of suspended sediments',	Perday	50.00	350.00
120	HYDROSCAT 4-WAVELENGTH BACKSCATTERING SENSOR	Alat untuk mengukur optik backscattering pada enam 'wavelength' yang berbeza di dalam air.	Perday	100.00	400.00

NO.	EQUIPMENT	DESCRIPTION	UNIT	PRICE (RM)	
				INTERNAL	EXTERNAL
121	LI-1400 DATA LOGGER	Peralatan untuk mencerap dan membaca data gelombang cahaya. Biasanya ia digunakan bersama LIGHT METER.	Perday	20.00	50.00
122	TOPCON GRS-1	Alat pengukuran kedudukan (Lat, Long) yang mempunyai integrasi 'dual constellation network enabled RTK rover system'. Ianya berfungsi sebagai 'field controller' dan 'handheld GNSS receiver'.	Perday	50.00	350.00
123	FISH TANK	To keep live fish or aquatic animal	<i>Per tonne/ month</i>	0.00	10.00

KADAR PERKHIDMATAN ANALISIS MAKMAL

NO.	ANALYSIS	EQUIPMENT	DESCRIPTION	PTJ	UNIT	PRICE (RM)
1	Hydrocarbon Analysis	GC-FID	Measuring organic elements (hydrocarbons) *Minimum 10 elements, RM 10.00 per additional element	INOS	<i>Per sample (without treatment)</i>	200.00
					<i>Per sample (with treatment)</i>	300.00
2	Chlorophyll Analysis	UV-VIS Spectrometer	Measuring Chlorophyll-a, Nutrient in water and sediment and organic chemical properties	INOS	INOS	50.00
3	Phytoplankton identification	Microscope	Phytoplankton identification and analysis	INOS	<i>Per Sample</i>	80.00
4	Zooplankton identification	Microscope	Zooplankton identification and analysis	INOS	<i>Per Sample</i>	80.00
5	Macrobenthos identification	Microscope	Macrobenthos identification and analysis	INOS	<i>Per Sample</i>	80.00
6	Ambergris Analysis	i) GC-MS ii) TGA iii) Freeze Dryer	To identify present of active compound in ambergris (ambrein, epi-coprosterol, coprostanone)	PPPL	<i>Per Sample</i>	550.00
					<i>Per Sample (from oversea)</i>	800.00 @USD 180.00
7	Analisis Ketulenan Madu Pakej 1 : Analisa Gula + Moisture	i) HPLC ii) Analytical balance iii) Micro pippet iv)refractometer	Honey Quality analysis is a tool to quantify and verify the quality of honey sample. Parameter analyzed: sugars & moisture	PPPL	<i>Per Sample</i>	225.00

NO.	ANALYSIS	EQUIPMENT	DESCRIPTION	PTJ	UNIT	PRICE (RM)
8	Analisis Ketulenan Madu Pakej 2: Analisa Gula + PH	i) HPLC ii) Analytical balance iii) Micro pipette iv) PH meter	Honey Quality analysis. Parameter analyzed: sugars & pH	PPPL	<i>Per Sample</i>	230.00
9	Analisis Ketulenan Madu Pakej 3: Analisa Gula + Moisture + PH	i) HPLC ii) Analytical balance iii) Micro pipette iv) Refractometer v) PH meter	Honey Quality analysis. Parameter analyzed: sugars, moisture & pH	PPPL	<i>Per Sample</i>	255.00
10	Analisis Ketulenan Madu Pakej 4: Analisa Gula + HMF	i) HPLC ii) Analytical balance iii) Micro pipette iv) Uv-Vis spectrophotometer	Honey Quality analysis. Parameter analyzed: sugars & HMF	PPPL	<i>Per Sample</i>	340.00
11	Analisis Ketulenan Madu Pakej 5: Analisa Gula + Moisture + PH + HMF	i) HPLC ii) Analytical balance iii) Micro pipette iv) Refractometer v) PH meter vi) Uv-Vis spectrophotometer	Honey Quality analysis. Parameter analyzed: sugars, moisture, pH & HMF	PPPL	<i>Per Sample</i>	395.00
12	Analisis Ketulenan Madu Pakej 6: Analisa Gula + Moisture + PH + ASH	i) HPLC ii) Analytical balance iii) Micro pipette iv) Refractometer v) PH meter vi) Furnace	Honey Quality analysis. Parameter analyzed: sugars, moisture, pH & ash	PPPL	<i>Per Sample</i>	290.00
13	Analisis Ketulenan Madu Pakej 7: Analisa Gula + Moisture + PH + HMF + ASH + TREHALOSE	i) HPLC ii) Analytical balance iii) Micro pipette iv) Refractometer v) PH meter vi) Uv-Vis spectrophotometer vii) Furnace	Honey Quality analysis. Parameter analyzed: sugars, moisture, pH, HMF, ash & trehalose	PPPL	<i>Per Sample</i>	480.00
14	Analisis Ketulenan Madu Pakej 8: TREHALULOSE + MOISTURE	i) HPLC ii) Analytical balance iii) Micro pipette iv) refractometer	Honey Quality analysis. Parameter analyzed: trehalose & moisture	PPPL	<i>Per Sample</i>	165.00

NO.	ANALYSIS	EQUIPMENT	DESCRIPTION	PTJ	UNIT	PRICE (RM)
15	Analisis Ketulenan Madu Pakej 9: Analisa Gula	i) HPLC ii) Analytical balance iii) Micro pipette	Honey Quality analysis. Parameter analyzed: sugars	PPPL	<i>Per Sample</i>	200.00

KADAR CAJ RUANG DI FAKULTI PERIKANAN DAN SAINS MAKANAN (FPSM)

NO.	LAB/ AREA	UNIT	PRICE (RM)	
			INTERNAL	EXTERNAL
1	SENSORY LAB	<i>Per hour</i>	50.00	80.00
2	SENSORY EVALUATION	<i>Per sample x 30 respondence</i>	300.00	500.00
3	BASIC FOOD PREPARATION LAB	<i>Per hour</i>	50.00	80.00
4	FOOD COMMERCIAL LAB	<i>Per hour</i>	50.00	80.00
5	FOOD PROCESSING AND PRODUCTION LAB	<i>Per hour</i>	50.00	80.00
6	HATCHERY AREA	<i>Per area 1.5mx2m/ month</i>	7.00	15.00
7	STUDIO	<i>Per day</i>	0.00	100.00

*Caj ruang dikenakan hanya kepada program penjaan pendapatan dan program penyelidikan yang melibatkan geran luar UMT.

KADAR HONORARIUM BAGI KAKITANGAN MAKMAL YANG MENJALANKAN KHIDMAT MENGANALISIS SAMPEL PIHAK LUAR (EXTERNAL) DAN KADAR HARGA BAGI PERKHIDMATAN KAKITANGAN BAGI MAKMAL PENGAJARAN UMT DI LUAR WAKTU PEJABAT KEPADA PIHAK LUAR

1. KADAR HONORARIUM BAGI KAKITANGAN MAKMAL YANG MENJALANKAN KHIDMAT MENGANALISA SAMPEL PIHAK LUAR (EXTERNAL)

Kadar Honorarium kakitangan makmal menjalankan analisa sampel:-

1. Sampel yang dianalisa sepenuhnya oleh peralatan

Kadar Honorarium = 10% x Harga persampel x Jumlah Sampel

(Contoh: Analisa logam berat, Nutrient, Klorofil dan lain-lain)

2. Analisa pengecaman sampel menggunakan pakar pengecam.

Kadar Honorarium = 40% x Harga persampel x Jumlah sampel

(Contoh: Analisa Zooplankton, Phytoplankton, Macrobenthos dan lain-lain)

Jadual 1: Kadar honorarium kakitangan makmal menjalankan analisa sampel

2. KADAR HARGA BAGI PERKHIDMATAN KAKITANGAN BAGI MAKMAL PENGAJARAN, UMT DI LUAR WAKTU PEJABAT

Kadar Harga Perkhidmatan Kakitangan Untuk 1 Jam:-

(Gaji (RM) ÷ 22 hari bekerja) ÷ 8 jam bekerja x 1.5 (gaji pekerja)

Nota:

Kadar harga perkhidmatan kakitangan makmal dikenakan hanya bagi tujuan penggunaan makmal pengajaran selepas waktu pejabat sahaja. Kadar yang dinyatakan tersebut tidak termasuk Cukai Jualan dan Perkhidmatan (SST)

Jadual 2: Kadar harga perkhidmatan kakitangan bagi makmal pengajaran UMT di luar waktu pejabat