UNIVERSITI TEKNOLOGI MARA

CELEBRATING COMMERCIALISATION YEAR 2014

iideX2014

invention innovation & design exposition 2014

AN INTERNATIONAL EXPOSITION ON RESEARCH AND INNOVATION

INNOVATEUR wannabe! 2014

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DEWAN AGUNG TUANKU CANSELOR (DATC)
UNIVERSITI TEKNOLOGI MARA
MALAYSIA

"Bridging the valley of death : advancing the commercialisation of research"

RESEARCH BOOK

iidex2014

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AN INTERNATIONAL EXPOSITION ON RESEARCH AND INNOVATION

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FOREWORD

The Honourable Minister of Science, Technology and Innovation (MOSTI) has launched 2014 as Malaysia Commercialisation Year 2014 (MCY2014) with the theme Science Technology and Innovation (STI) for Wealth Creation. In line with this theme, Invention, Innovation, Design & Exposition 2014 (iidex2014) is an annual exposition organized by UiTM and is the ultimate platform to highlight and commercialise new inventions and innovations. Researchers and inventors will exhibit their products which cater to the needs and wants of the community and the country.

The iidex2014 creates a new dimension by fusing two competitive concepts, a competition among innovative products and a competition to invite Innovateur Wannabes to perform live pitching of their products to the audience. The iidex2014 focuses on comprehensive commercialization and creating opportunities for entrepreneurs to carry out R&D as well as to provide avenue to commercialise their products. Through expositions such as iidex2014, MOSTI hopes to inculcate the culture of commercialisation of new technology designed and created by Malaysians.

I wish to congratulate all the participants of the iidex2014 and this is the opportunity for all researchers to show their ideas and exhibits their products and creativity. Apart from showcasing their products, innovators will have the opportunity to provide a window to the industry for business matching during the exposition.

Tan Sri Dato' Sri Sallehuddin Mohamed
Pro-Chancellor, Universiti Teknologi MARA

LIST OF PRODUCTS

NO.	SESSION	PRODUCT TITLE	PAGE
1	A	'REBANA UBI' COMPUTER SPEAKER : A CORPORATE GIFT WITH UNIQUE MALAYSIA HERITAGE ELEMENT	1
2	A	WALL CERAMIC DECO ARTS AS THERAPHY	1
3	A	THE EFFECTS OF UNCONTROLLED DEFORESTATION AND DEVELOPMENT TO MALAYSIA'S ECOSYSTEM.	2
4	A	BONGKA (JAWI BOARD GAME)	3
5	A	NEW SUITE FOR POISONER IN THE AGRICULTURAL SECTOR	3
6	A	MULTI-ANGLE LADDER (MAL)	4
7	A	B-PLUG	5
8	A	NAILS BINDING IKAT TEXTILE DESIGN	6
9	A	THE TRAVELLING PRAYER MAT	7
10	A	INDIGENOUS SOFTWARE FOR SIZING LARGE SCALE ROOFTOP GRID-CONNECTED PHOTOVOLTAIC SYSTEMS IN MALAYSIA	7
11	A	APPLICATION OF ANN IN DISCRIMINATING THE AGARWOOD OIL QUALITY USING SIGNIFICANT CHEMICAL COMPOUNDS	8
12	A	EASILY DEPLOYABLE, MULTI-FUNCTIONAL LOW FREQUENCY FS RADAR NETWORK	9
13	A	PRESENT TIME TRACKER	9
14	A	A GENERALIZED FAULT LOCATION METHOD BASED ON VOLTAGE SAGS FOR DISTRIBUTION NETWORK	10
15	A	CMS: CONFERENCE MANAGEMENT SYSTEM	10
16	A	AUTOMATIC RABBIT FEEDING SYSTEM USING SCADA	11
17	A	ON-BOARD REAL TIME VISION BASED SENSOR IMPLEMENTATION ON UAV FOR FEATURES DETECTION TECHNIQUE OF LOW ALTITUDE MAPPING	11
18	A	A SELF-CONTAINED REAL-TIME ANGLE DEVIATION DETECTION AND MEASUREMENT TECHNIQUE FOR STRAIGHT LINE QUADROCOPTER NAVIGATION USING ACCELEROMETER	12
19	A	PORTABLE WIRELESS ITEMS IDENTIFICATION SYSTEM (PWIIS)	12
20	A	OOMPH! : FRUIT SNAX ENERGY BAR	13
21	A	HEALTH CARE PROVIDER (HCP) FRIENDLY PEN	14
22	A	THE MULTI-TASK TURNING TEST (THE MTT TEST)	15
23	A	'USERS' IN-VIVO: REFERENCE TABLE ON EFFECTS OF ULTRASOUND DURING PREGNANCY	16
24	A	ANTIBACTERIAL SOAP FROM EXTRACTION OF ZINGIBER ZERUMBET SP AND WASTE COOKING OIL	17
25	A	INDIVIDUAL - MEDICATION SAFETY BOX (I-MEDS box)	18
26	A	D-EXERCISE FOR PATIENTS WITH CORONARY HEART DISEASE (CHD)	19
27	A	AMBER FILTER WITH SELF-ADMINISTERED NEAR VISION SCREENING CARD	20
28	A	MALAY READING CHART: READING SPEED TESTING INSTRUMENT	21
29	A	CP-TRUPEC	22
30	A	BUILDING MATERIALS INFORMATION (BUMI) FRAMEWORK FOR BUILDING ADAPTATION PROJECTS	23
31	A	MY-ALBEDO: AN ALTERNATIVE BASELINE RADIATION NETWORK	24
32	A	SPECTRO-GIS	25
33	A	ELICITING EXPERT OPINION VIA DELPHI SURVEY	26
34	A	WEB-BASED VRGIS PROPERTY MARKETING INFORMATION SYSTEM (VRGIS-PMIS)	27
35	A	E-PROCUREMENT BENEFITS FRAMEWORK FOR CONSTRUCTION INDUSTRY	28
36	A	UNIVERSAL DESIGN GUIDELINE FOR PUBLIC PARK RECREATIONAL FACILITIES	29

NO.	SESSION	PRODUCT TITLE	PAGE
37	A	GBI TOOLS FOR INTERIORS - SUSTAINABLE PLANNING & MANAGEMENT	30
38	A	SUSTAINABLE ABSORPTION PANELS FROM AGRICULTURAL WASTE	31
39	A	BREATHABLE & INTERLOCK-ABLE ROOF TILE: NATURAL VENTILATION IN TROPICAL HUMID ARCHITECTURE	32
40	A	PROPOSED INTERIOR DESIGN OF RADZUAN RADZIWILL BOUTIQUE AT LOT D STRATA MELAWATI, JALAN BANDAR 11, WANGSA MELAWATI 53300 SELANGOR FOR DATO RADZUAN MOHD RADZI	33
41	A	INTELLIGENT TREE INVENTORY DETECTOR	34
42	A	GEOFLOOD INFORMATION VISUALISOR (GFIV)	35
43	A	AQUAOS: SPATIAL AQUACULTURE DECISION SUPPORT SYSTEM USING MULTI INTEGRATED OPEN SOURCE GIS	36
44	A	FORMULATING [H+T] AFFORDABILITY INDEX FOR LOW-COST HOUSING DISTRIBUTION PROCEDURE	37
45	A	RECYCLE SHUTTLECOCKS AS PARTICLE BOARDS	38
46	A	THE RELATIONSHIP BETWEEN HOUSEHOLD EXPENDITURE AND HOME OWNERSHIP IN DETERMINING AFFORDABILITY	39
47	A	A CONSERVATION OF HERITAGE TIMBER BUILDING IN MALAYSIA - MASJID LAMA KAMPUNG KUALA DAL, KUALA KANGSAR, PERAK.	40
48	A	23 CYCLE	41
49	A	ASSESSEMENT ON RECREATION CARRYING CAPACITY AT SELANGOR FOREST RECREATION AREAS	42
50	A	THE SPEEDY LINGO GAME- MASTERING SYNONYMS, ANTONYMS AND HOMONYMS IN A FLASH	43
51	A	PRACTICUM EVALUATION SYSTEM (PES)	43
52	A	EXAM'S REPORT AUTOMATION (ERA)	44
53	A	THE CONSULATE	44
54	A	E-ESSENCE: ELECTRONIC EMOTIONAL AND SOCIAL SUPPORT FOR SPECIAL EDUCATIONAL NEEDS (SEN) LEARNERS' COMMUNITY IN HIGHER EDUCATION	45
55	A	LITERATURE REVIEW ANALYSIS SYSTEM (LIRAS)	46
56	A	ELECTRONIC MALAYSIAN CRITICAL THINKING TEST	47
57	A	STAD: STRATEGIZING TRAINING OF ADULT LEARNERS THROUGH DIVERSITY	48
58	A	INTELLECTUAL SCIENCE AND MATHEMATICS PROGRAM (I-SMP)- ENHANCING STUDENTS' LEARNING INTEREST FOR BETTER PERFORMANCE.	49
59	A	ONLINE SUBMISSION & ANALYSIS FOR FINAL YEAR PROJECT EVALUATION	50
60	A	CAMPUS LIFE SERVICES SYSTEM	51
61	A	INNOVATED COSMIC FUNCTIONAL SIZE MEASUREMENT CALCULATOR FOR MOBILE APPS DEVELOPMENT COST ESTIMATION	52
62	A	SPRINKLER ARRANGEMENT FOR STADIUM UiTM	53
63	A	THE DEVELOPMENT OF SECURE INTERFACE SYSTEM FOR WI-FI INTERNET ACCESS USING BLENDED APPROACH OF CAPTIVE PORTALS AND KEY VERIFICATION TECHNIQUES	54
64	A	MUSLIM CENTERED USER INTERFACE DESIGN PROTOTYPE	55
65	A	FORECASTING SHARE PRICES OF COMPANIES IN BURSA MALAYSIA USING GEOMETRIC BROWNIAN MOTION	56
66	A	MICRO SOURCING FRAMEWORK TO UPLIFT INCOME OF THE POOR	57
67	A	A USABLE MOBILE CALENDAR FOR ELDERLY	58
68	A	SURFACE RECONSTRUCTION ON MINI PARALLEL PROCESSING: GREEN TECHNOLOGY FOR IMAGE PROCESSING	59
69	A	RENA_ CA	60
70	A	CASSIA AURICULATA CAPSULES	61
71	A	ALL-IN-1 ADVERSE DRUG REACTION REPORTING SYSTEM	62
72	A	EASY TO DO FAMILY DIY REFLEXOLOGY KIT	63
73	A	GOLDEN-C: MANGO DRINK ENRICHED WITH ANTIOXIDANTS OF MAS COTEK	64
74	A	ASSESSMENT OF THE HALAL STATUS OF RESPIRATORY PHARMACEUTICAL PRODUCTS IN A HOSPITAL	65

NO.	SESSION	PRODUCT TITLE	PAGE
75	A	A RETROSPECTIVE COMPARISON OF THE MORTALITY OF CRITICALLY ILL PATIENTS RECEIVING PROLONGED AND STANDARD INFUSION OF MEROPENEM	66
76	A	ELDERLY MEDICATION AND SAFETY (EMAS) EDUCATION PROGRAM	67
77	A	ORALEC ANTIINFLAMMATORY MOUTHWASH	68
78	A	HOTEL RODENTIA	69
79	A	PORTABLE JACKET	70
80	A	GLOW IN THE DARK (GITD) EMERGENCY LANE	70
81	A	PARKING MARKER	71
82	A	MULTIPURPOSE TOILETRIES	72
83	A	SMART WIPEBOARD	73
84	A	MAGNETIC LAMP	74
85	A	CATUR PILIHAN	75
86	A	CUZIBAG	76
87	A	4 IN 1 HEATCOOK	76
88	A	3D PHONOGRAMS BOOK	77
89	A	FACIAL EXPRESION AND THE MASKS	78
90	A	ADAPTIVE CLOTHING FOR PARAPLEGIC INDIVIDUALS	79
91	A	AN INNOVATION BACKPACK JACKET : FOR KIDS	80
92	A	SMART PENCIL CASE	81
93	A	CORATELLA	81
94	A	AN INNOVATION OF INTELLIGENT FOOD COVER HEATER	82
95	A	HYDRO ELECTRICIA	82
96	A	TYRE RESCUE KIT	83
97	A	R2R	83
98	A	SAFETY STOPPER	84
99	A	MARKER DUSTER	84
100	A	IC TRAQUER (IDENTIFICATION CARD TRACKER)	85
101	A	NEO BOTTLE	85
102	A	INFOMEDIA FOR FACTORS CONTRIBUTING TO INTERNET ABUSE IN THE WORKPLACE	86
103	A	AUTOMATIC PET FEEDER WITH 7-TIMER TECHNOLOGY (PEFED-7)	87
104	A	AUTOMATIC DATABASE OF ROBUST NEURAL NETWORK FORECASTING	88
105	A	SYSTEM OF PORTABLE FIREARM ANALYSIS DEVICE (PAFAD)	89
106	A	PERSONALIZED INTELLIGENT FITNESS CALORIE (IFITCAL) ADVISOR	90
107	A	INTERACTIVE FACEBOOK SEMANTIC ANALYZER	90
108	A	PADDY DEFECT DETECTION INTELLIGENT KIT (PADDI KIT)	91
109	A	GEOGRAPHICAL INFORMATION SYSTEM (GIS) DEVELOPMENT FOR LICENSING AND ENFORCEMENT DEPARTMENT (LED) OF MBSA (GIS-LED) USING SPATIAL DATA ANALYSIS.	91
110	A	BIKE RECOMMENDER SYSTEM	92
111	A	PDE-BASED DENOISING TOOL FOR DIGITAL RADIOGRAPHIC IMAGE OF WELDING DEFECT	93
112	A	NANOPARTICLE TECHNOLOGY IN AQUEOUS CARBON DIOXIDE (CO2) FOAM FOR ENHANCED OIL RECOVERY (EOR)	94
113	A	BIODEGRADABLE POLYMER FROM TERRESTRIAL EDIBLE MUSHROOM FOR ENHANCED OIL RECOVERY (EOR)	95
114	A	GREEN TIO2/ENR/PVC NANOCOMPOSITES WITH IMPROVED TENSILE STRENGTH FOR CABLE INSULATOR	96
115	A	ECO-FRIENDLY EPOXIDE AS GREEN CHEMICALS PRECURSOR	97
116	A	PRODUCTION OF NEW GROWING MEDIA FOR ALGAE IN BIODIESEL PRODUCTION	98
117	A	PRODUCTION OF XYLANASE BY XYLANOLYTIC MICROORGANISM USING OIL PALM LEAF AS SUBSTRATE	99
118	A	ECO-FRIENDLY BAKER'S YEAST FOR MICROBIAL ENHANCED OIL RECOVERY (MEOR)	100

NO.	SESSION	PRODUCT TITLE	PAGE
119	A	ONLINE MONITORING SYSTEM OF RESPIRATION (OXYGEN TRANSFER RATE) OF MICROOGANISMS IN AEROBIC FERMENTATION	101
120	A	TANNIN EXTRACTION FROM MANGOSTEEN PEEL FOR VISCOSIFIER AND FLUID LOSS ADDITIVE IN DRILLING FLUID	102
121	A	ELAIS GUINEENSIS (PALM) LIGNOCELLULOSIC BIOMASS DISSOLUTION WITH AQUEOUS IONIC LIQUID fOR BIOFUEL PRODUCTION	103
122	A	AN INNOVATION OF CORDIAL LIQUID INTO CORDIAL CAPSULE	104
123	A	"USING THE "GLASS CEILING" INDICATOR TO MEASURE THE EXTENT OF ITS EXISTENCE IN THE MALAYSIAN CORPORATE SECTOR"	105
124	A	PORTABLE FLIP KEYS	106
125	A	BIKE SHARING SYSTEM	106
126	A	INSTITUTIONAL AND FAMILY SUPPORT AS AN INDICATOR TO MEASURE WOMEN'S DECISION TO REMAIN IN THE LABOUR FORCE	107
127	A	CACOONEY	108
128	A	AN ALTERNATIVE MODEL OF SELF-CONGRUITY FOR ISLAMIC BANKING CUSTOMERS: A MULTI-DIMENSIONAL APPROACH	109
129	A	INCORPORATING RISK MANAGEMENT AS PART OF SHARIAH GOVERNANCE FRAMEWORK IN ISLAMIC INSTITUTION	110
130	A	A PROPOSAL FOR A NEW MODEL OF SHARIAH COMPLIANT HOTELS	111
131	A	A NOVEL 3D QUANTIFICATION TECHNIQUE FOR MUCOSA THICKNESS	111
132	A	INNOVATION IN APPLICATION OF HIYAL (LEGAL DEVICE) ON IJARAH BASED CONTRACT IN MALAYSIA	112
133	A	PROTECTIVE THERMOFORMING PALATAL COVER	113
134	A	A NOVEL INTRA-ORAL LUBRICATING DEVICE FOR DRY MOUTH PATIENTS	113
135	A	PUBLIC DENTAL EDUCATION: AN ENTERTAINING APPROACH	114
136	A	UTILISATION OF CARIOGRAM SOFTWARE TO EDUCATE PATIENTS ON CARIES RISK ASSESSMENT	114
137	A	PORTABLE HUMAN HBV DNA DETECTION AND QUANTIFICATION USING INVERTASE-BASED SYSTEM	115
138	A	THREE DIMENSIONAL BIODEGRADABLE HYDROGEL FOR THE TREATMENT OF GUM DISEASES	115
139	A	DEVELOPMENT OF DIAGNOSTIC KIT FOR HUMAN ORAL SQUAMOUS CELL CARCINOMA	116
140	A	MANDIBULAR OVERDENTURES USING SHORT IMPLANTS: NEOTERIC TREAMENT MODALITY TO REDUCE RESIDUAL RIDGE RESORPTION	116
141	A	DISCRIMINATION OF FICUS DELTOIDEA VARIETIES USING HPLC-PDA-TOF-MS	117
142	A	NEUROPROTECTIVE POTENTIAL OF THE PENTACYCLIC OXINDOLE ALKALOIDS FROM MALAYSIAN UNCARIA LONGIFLORA VAR. PTEROPODA AGAINST HYDROGEN PEROXIDE-INDUCED SH-SY5Y CELLS	118
143	A	RECYCLING PREPARATIVE HPLC FOR ISOLATION OF STYRYL-LACTONES FROM GONIOTHALAMUS LANCEOLATUS	119
144	A	ISOLATION AND CHARACTERIZATION OF MARINE FUNGI IN MALAYSIA	120
145	A	EFFECT OF EPIGENETIC REGULATORS ON THE SECONDARY METABOLITES PRODUCTION OF ASPERGILLUS LONGIVESICA.	121
146	A	DETERMINATION OF ABSOLUTE CONFIGURATION OF CLERODANE-TYPE DITERPENES USING EXPERIMENTAL AND THEORETICAL ELECTRONIC CIRCULAR DICHROISM TECHNIQUES	122
147	A	MODIFICATION OF STREOIDAL COMPOUNDS BY BIOTRANSFORMATION AS A GREEN SYNTHETIC TOOL	123
148	A	MUSHROOM ENDOPHYTIC FUNGI AS A SOURCE OF BIOACTIVE METABOLITES	124
149	A	BIOACTIVE METABOLITES FROM ENDOPHYTES ASSOCIATED WITH RUBIACEOUS PLANTS FROM UITM PUNCAK ALAM BIOLOGICAL RESERVE	125
150	A	MOLECULAR RELATIONSHIP AND BIOSYNTHETIC POTENTIAL OF ENDOPHYTIC BACTERIA	126
151	A	STUDY THE EFFECT OF PMMA-SEEDED SUBSTRATE TO THE ZNO NANOSTRUCTURES	127
152	A	THE EFFECT OF AU-SEEDED THICKNESS TO THE GAS SENSING PROPERTIES OF ZNO NANOSTRUCTURES OBTAINED BY MIST-ATOMIZATION ON HEATED SUBSTRATES	128
153	A	AIR-TIGHT RADON CHAMBER FOR DETERMINATION OF SUPPORTED RADON CONCENTRATION IN WATER	129

NO.	SESSION	PRODUCT TITLE	PAGE
154	A	COBALT POOR AND RICH lixNi1-yCoyO2 LAYERED MATERIALS FOR Li-ION BATTERY APPLICATION	130
155	A	ZN(1-X)CUXO AND ZN(1-X)FEXO AND ZNO NANOSTRUCTURES FOR PHOTOVOLTAIC APPLICATIONS	131
156	A	CONDUCTIVITY IMPROVEMENT OF CR DOPED AL2O3 MATERIALS	132
157	A	LI2XMG(1-X)O LIGHT ABSORPTION PROPERTIES FOR SEMICONDUCTOR APPLICATIONS	133
158	A	STABLE MGO NANOPARTICLES FOR CATALYTIC AND PHARMACEUTICAL APPLICATIONS	134
159	A	COMBATING BACTERIA VIA SILVER-DAMMAR COATING	135
160	A	GREEN SOLID ELECTROLYTE FOR ELECTROCHEMICAL DEVICES	136
161	A	FORMULATION OF ISOPROPYL LAURATE (IPL) DRILLING FLUID	137
162	A	ELECTROSPRAY DRYING FOR PRODUCING ACTIVE PHARMACEUTICAL INGREDIENTS (API) NANOPARTICLES	138
163	A	KHAYA SENEGELANSIS : A NATURAL OIL ADSORBENT FOR PRODUCED WATER TREATMENT	139
164	A	LEMONGRASS FIBRE AS LOST CIRCULATION MATERIAL IN DRILLING FLUID	140
165	A	EDIBLE-BASED AND NON-TOXIC CORROSION INHIBITOR	141
166	A	SPECIAL FORMULATION FIBER-ENRICHED MILK POWDER FOR CONSTIPATION	142
167	A	APPLYING INTERACTIVE MULTIMEDIA INSTRUCTIONAL SYSTEM DESIGN (ISD) IN A LANGUAGE PROFICIENCY COURSE: A LOOK INTO LEARNER'S LEARNING STYLES	143
168	A	FINDS: FRAUD DIGITAL FORENSIC TOOL	144
169	A	REUSABILITY OF IRON SLUDGE BY SOLAR PHOTO-FENTON OXIDATION IN TREATMENT OF PALM OIL MILL SECONDARY EFFLUENT (POMSE)	145
170	A	USING PULVERIZED FUEL ASH (PFA) AS AN ALTERNATIVE CONSTRUCTION MATERIAL	146
171	A	LITTE KIDDO BOTTLE	147
172	A	WASTE FROM COCONUT PLANTATION-COCONUT HUSK FOR MAKING BIODEGRADABLE COMPOSITE	147
173	A	BULUH BETONG FOR THE PRODUCTION OF PEELED BAMBOO-FIBERGLASS COMPOSITE (PBFC)	148
174	A	RAPID PRODUCTION OF BIOGAS BY HIGH FREQUENCY SONICAL WAVE CHAMBER	149
175	A	NEW ADVANCED IRRADIATED RUBBER TOUGHENED POYAMIDE 6/HIGH DENSITY POLYETHYLENE FOR ENGINEERING APPLICATION	150
176	A	GASIFICATION OF OIL PALM BIOMASS TO PRODUCE CLEAN PRODUCER GAS FOR HEAT AND POWER GENERATION	151
177	A	ANTHROPOMETER CHAIR- A GOOD ERGONOMIC DESIGN FOR ELEMENTARY SCHOOL STUDENTS	152
178	A	ORGANIC-INORGANIC LAYERED DOUBLE HYDROXIDE ADSORBENT:	153
179	A	ULTRASONIC WAVE AND PH ENHANCED THE FORMATION OF TIO2 NANOTUBE STRUCTURE	154
180	A	BLOWFLY MAGGOTS AS THE PHYSICAL EVIDENCE FOR FORENSIC CASES	155
181	A	ASH: FROM WASTE TO CRIMINAL INVESTIGATION TOOL	156
182	A	MOLECULAR PHYLOGENY OF SOCIAL VESPID WASPS INFERRED FROM DATA SEQUENCE DATA OF CO1 GENE	157
183	A	MOULDED ROVBAM (ROTARY VENEER FROM BAMBOO) CHAIR	158
184	A	CORROSION INHIBTION STUDIES ON NEWLY SYNTHESIZED 1,3-BIS(N'-2,3,4-METHYLBENZOYLTHIOUREIDO)-1,3-METHYLBENZENE	159
185	A	HYBRID LAMINATED BAMBOO VENEER BOARD FOR FURNITURE COMPONENT	160
186	A	SEDIMENT AS POLLUTANTS MARKER ACCUMULATOR	161
187	A	INNOVATIVE BIOCOMPOSITE FOR FUTURE APPLICATIONS	162
188	A	TAXONOMIC STUDY OF CHLOROPHYTA IN SELECTED ISLANDS AND COASTAL AREAS IN LANGKAWI	163
189	A	ORGANIC POOR-CONDUCTOR BRICK	164
190	B	GARDEN NURSERY PAPER POT	164
191	A	CAPTURING THE PATTERNS & COLOURS OF CHEMICAL SUBSTANCES REACTIONS THROUGH PHOTOGRAPHY RESEMBLING PSYCHEDELIC ART FOR SURFACE DESIGN	165

NO.	SESSION	PRODUCT TITLE	PAGE
192	A	MY UBBL (MOBILE APPLICATION)	166
193	A	KOMUNIKAY	167
194	A	ADJUNCT TEACHING & LEARNING TOOLS FOR UNDERGRADUATE DENTAL EDUCATION IMPROVEMENT	168
195	A	BONE FORMATION WITH THE COMBINATION OF ELLAGIC ACID AND ROSUVASTATIN AFTER TOOTH EXTRACTION IN DIABETIC RAT	169
196	A	EXCEL ACCOUNTING SPREADSHEET (EAS) FOR MICRO BUSINESS	170
197	A	CHEAP CATALYST PRODUCED FROM INDUSTRIAL WASTEWATER AND AGRICULTURAL WASTE	171
198	A	INJECTION MOULDING OF NEW SYNTHESIZED METHOD FOR HYDROXYAPATITE SCAFFOLD FROM STEARIN BASED BINDER SYSTEM	172
199	A	NOVEL PDM-CEZRO2 NANOCATALYST FOR REDUCING AUTOMOTIVE EMISSIONS	173
200	A	SURFACE MODIFICATION OF TIO2 FOR PHOTOCATALYTIC DEGRADATION OF HAZARDOUS POLLUTANTS UNDER ORDINARY VISIBLE LIGHT	174
201	A	ECO-FRIENDLY LIGHTWEIGHT CEMENT	175
202	A	IMPROVED PROCESS FOR PRODUCING DIHYDROXYSTEARIC ACID FROM EPOXIDIZED CRUDE OLEIC ACID FOR COSMETICS	176
203	A	BIO OIL PRODUCTION FROM FAST PYROLYSIS OF OIL PALM BIOMASS	177
204	A	NEW BIOMATERIALS FOR BIOETHANOL PRODUCTION	178
205	A	INNOVATION CAPITAL EVALUATOR (INNCE)	179
206	A	GREEN INTELLECTUAL CAPITAL APPRAISER (GICA)	180
207	A	VIRTUAL SCHEMA PACKAGE	181
208	A	DEVELOPMENT OF E-WEDDING SYSTEM	182
209	A	STUDENT REPORT CARD SYSTEM (SRCS)	183
210	A	EVENTUS: AN EVENT RECOMMENDER SYSTEM	184
211	A	INDOOR SMART GYM DESIGN FOR ADVENTURE SEEKERS	185
212	A	SISTEM PERMOHONAN SURAT PELAJAR	186
213	A	NEW MUSYARAKAH MODEL FOR MULTIPLE CAPITAL PROVIDERS WITH MULTIPLE PROFIT SHARING RATIOS	187
214	A	PEDESTRIAN CROSSING RISK ASSESSMENT (PEDCRA) MODEL FOR SIGNALISED INTERSECTIONS	188
215	A	TORREFACTION OF BIOMASS INTO VALUE-ADDED SOLID FUELS	189
216	A	HIGH STRENGTH CELLULAR ALUMINIUM FOAM (HIS-CAF)	190
217	A	PRIORITY SYSTEM FOR DISABLE PEOLPE (PS TAG)	191
218	A	CONCEPTUAL DESIGN AND ARCHITECTURE OF E-AGRICULTURE SYSTEM	192
219	A	GINGER TORCH FLOWER PASTE (GTFP)	193
220	A	IN-SENSE: INTELLIGENT SENSORY GUESTROOM EXPERIENCE	194
221	A	ISLAMIC QUALITY STANDARD (IQS) E-AUDIT FOR HOTEL	195
222	A	AMPLIFYING AIRPORT NON-AVIATION REVENUE THROUGH MICE EVENT	196
223	A	LEDANG SUSTAINABLE TRAIL DEVELOPMENT (LSTD): A NEW JOHOR TOURISM PRODUCT WITH BOTH SUSTAINABILITY AND DEVELOPMENT RATIONALE	197
224	A	JACKFRUIT SEED FETTUCCINE	198
225	A	MUNCHY BLACK SOY WASTE SNACK	199
226	A	CORN SILK BREADSTICK	200
227	A	BUILDING ENTREPRENEURIAL MINDSETS AND SKILLS ACROSS DISCIPLINES: THE CLASSROOM EXPERIENCE	201

NO.	SESSION	PRODUCT TITLE	PAGE
228	A	HENCO	202
229	A	IV DRIP AUTO OFF	203
230	A	PNF-INDEPENDENT MOVEMENT (PNF-INDEMO)	204
231	A	E-POWER GEAR	205
232	A	BIOLARVICIDAL POTENTIAL OF ELETTARIOPSIS SMITHIAE (POKOK KESING) EXTRACTS AGAINST DENGUE FEVER MOSQUITO, AEDES AEGYPTI AND AEDES ALBOPICTUS	206
233	A	SMART CANE	207
234	A	SOLARIZED FUEL CELL TRAINER KIT	208
235	A	SHARIAH COMPLIANCE USED QURAN PAPER DISPOSAL SYSTEM	208
236	A	AN APPARATUS FOR DISPENSING A ROLLED MATERIAL AND A METHOD THEREOF	209
237	A	ALTERNATIVE LOUDSPEAKER ENCLOSURE	210
238	A	DUAL FUNCTION MOUTH SPACER	211
239	A	SWISH CAR JACK: SWIRLING, SAFE AND HANDY	212
240	A	ENERGY EFFICIENT DESIGN OF FUEL CELL ELECTRIC VEHICLE POWER PLANT SYSTEM	213
241	A	HMEI (HUMAN-MACHINE-ENVIRONMENT-INTERFACE) DESIGN LAYOUT OF POSTURA MOTERGO TEST RIG	214
242	A	POSTURA MOTERGO: NEW REVOLUTIONARY MOTORCYCLE TEST RIG	215
243	A	INTEGRATED MOTORCYCLE PROTECTION	216
244	A	ALL-IN-ONE OPTO LAB COAT	217
245	A	SARCOCYSTIS THERMOSTABLE PCR DETECTION KIT	218
246	A	RAPID HAND PUMP INFUSER DISPOSABLE (RAHPID)	219
247	A	IGS TRATO: INSTITUTE OF GRADUATE STUDIES THESIS TRACKING SYSTEM	220
248	A	ALTERNATIVE ORGANIZATIONAL STRUCTURE DEVELOPMENT IN A SMALL/MEDIUM CONSTRUCTION COMPANY	221
249	A	IOS LABORATORY SAFETY CHECKLIST	222
250	A	A 15-MINUTE EXERCISE REGIME FOR OFFICE WORKERS	223
251	A	LOW DIFFUSE REFLECTION MARKER FOR MOTION ANALYSIS APPLICATION	224
252	A	ST-1 SHOES	225
253	A	MYFITNESS CALCULATOR	226
254	A	BE CLEAR IN RECREATION: BE RECREATED	227
255	A	FLEXI FLEXI	228
256	A	ONLINE ACCIDENT REPORTING SYSTEM	229
257	A	APPLICATION OF ANN IN DIFFERENTIATING GROUP STROKE LEVEL USING EEG SIGNAL	230
258	A	IQ CLASSIFIER USING BRAINWAVE FEATURES AND ANN	231
259	A	DIVERSITY AND DISTRIBUTION OF CLASS INSECTA IN PADDY FIELD OF SUNGAI BURONG, SELANGOR	232
260	A	SODIUM ION BATTERY USING ORGANIC - INORGANIC SOLID ELECTROLYTE	233
261	A	PHLEGM DISPOSAL	234
262	A	AVANT GARDE ABLUTION TUB	235
263	A	INDOOR CREATIVE FURNITURE : ARTISTIC BENCHES	236
264	B	PIOM (PROJECT INFO ON MOBILE)	237
265	B	CREATIVE CERAMIC ART : 'TOUCHING HEART' PROJECT	238
266	B	CREATIVE AUTISTIC LEARNING SYSTEM (CALS)	239
267	B	CRAYON FROM WASTE WAX	240

NO.	SESSION	PRODUCT TITLE	PAGE
268	B	ORIGAMI 'SAMPUL RAYA' (ENVELOP)	241
269	B	FRYING COOKER FOR THE VISUALLY IMPAIRED	242
270	B	THE MODIFICATION OF PAINTBALL SPORTWEAR IN FULFILLING THE SAFETY REQUIREMENT	243
271	B	ZAFFIN : THE IDIOSYNCRATIC ASPECT OF MALAYS DESIGN FURNITURE	244
272	B	VISUALIZING MALAY CULTURAL BELIEFS IN THE FORM OF VISUAL-TACTILE DESIGN	245
273	B	CONTEMPORARY JEWELLERY DESIGN OF BIOSPHERE MATERIAL	246
274	B	KAPTEN BHUMI - PERMAINAN PAPAN PENDIDIKAN (EDUCATIONAL BOARD GAME) UNTUK PENDIDIKAN ASAS SAINS ASTRONOMI.	247
275	B	EFFECTIVE MONETIZATION TECHNIQUES IN MOBILE GAME APPS	248
276	B	DURABILITY OF ARECA CATCHU AS AN ALTERNATIVE BIOMATERIAL IN JEWELLERY	249
277	B	POKER CARD GAME: A CHATTING BOOSTER TO ASSIST ESL STUDENTS IN GROUP DISCUSSION	250
278	B	I - CORPORATE SOCIAL RESPONSIBILITY REPORTING MODEL OF SHARIAH-COMPLIANT COMPANIES	251
279	B	I - ETHICAL IDENTITY MODEL OF SHARIAH-COMPLIANT COMPANIES	252
280	B	PERSONAL SENSOR DETECTOR SAFETY DEVICES FOR OUTDOOR ACTIVITY	253
281	B	SANG KANCHIL: MALAY FOLKTALE ANIMATION WITH WAYANG KULIT CONCEPT	254
282	B	LOST AND FOUND PORTAL	255
283	B	COMPARING THE EFFICIENCY MODEL FOR MARITAL DISSOLUTION - SURVIVAL ANALYSIS APPROACH	255
284	B	I-CSR EFFICIENCY RANKING OF ISLAMIC BANKS	256
285	B	SBMA CREW	257
286	B	NOUDI SOFA'S	258
287	B	DESIGN REBRANDING: INFLOW FROZEN FOOD	259
288	B	WALKY WALKER FOR KIDS (DISABLE)	259
289	B	DESIGN REBRANDING: SUMAI SUITE HOTEL	260
290	B	OBJECT-BASED LEARNING APPROACH AS STIMULI TO POETRY PRODUCTION: AN INNOVATION IN RESEARCH METHODOLOGY AND IN THE TEACHING OF LITERATURE	261
291	B	TEACHING KIT FOR ART TEACHERS: IMPASTO (T-KAT: IMPASTO)	262
292	B	HANDYBOOK FOR REPORTING YOUR STATISTICAL FINDINGS	263
293	B	DEVELOPING ENTREPRENEURIAL SKILLS AMONG UNIVERSITY STUDENTS: THE GRADE FORECASTING TOOL	264
294	B	E-CTM CREATIVE DEVELOPMENT (MOTIF) FOR CRAFT TRADITIONAL MODULE BASED ON THE STRUCTURE OF MALAY WOODCARVING MOTIFS - BLENDED LEARNING	265
295	B	ICDM INSTRUCTIONAL CREATIVE DESIGN MATERIALS FOR VISUAL ART EDUCATION FOR SECONDARY SCHOOL	266
296	B	SUPERB INO TECH WATER HEATER	267
297	B	EASY ABC MACHINE	267
298	B	LISTEN LISTEN LISTEN - AN ONLINE LISTENING TOOL	268
299	B	ZAKAT PERFORMANCE INDEX	269
300	B	THE SLURPPER: GAS OPERATED SUPER SUCTION & SPRAY DEVICE (GOS³D)	270
301	B	MODELING AIR POLLUTION MEASUREMENT USING DISTANCE-BASED RANKING FUZZY NUMBERS APPROACH	271
302	B	T-BRICK	272
303	B	SAY NO TO PLYWOOD. UTILIZATION OF RECYCLED HDPE BOTTLE+ PINEAPPLE LEAVES FIBRE AS ECO-PLYFIBRE	272

NO.	SESSION	PRODUCT TITLE	PAGE
304	B	APLLICATION OF BAYESIAN FUZZY REGRESSION ANALYSIS AND MODEL SELECTION ON HEDONIC PRICING STRATEGY	273
305	B	WASTED DIAPERS AS PLANT WATER RETAINER AND BIO-FERTILIZER	274
306	B	INDUSTRY-BASED LEARNING MODULE	275
307	B	THE POTENTIAL OF CASSAVA STARCH IN MAKING BIODEGRADABLE PLASTIC AND ENVIRONMENTAL-FRIENDLY PRODUCT	276
308	B	ISLAMIC STUDENT LOAN BACKED SECURITIZATION	276
309	B	THE POTENTIAL OF HAIR AS PROTECTIVE COAT FOR PLANT FROM ACID RAIN	277
310	B	SYSTEMATIC SYSTEM COLLECTION ON TEXT BOOK REVENUE (YESMART)	277
311	B	PRODUCTION OF BIOETHANOL FROM BANANA PEELS BY FERMENTATION OF YEAST	278
312	B	TRIAXIAL TEMPLATE FOR TUDUNG SAJI WEAVING	279
313	B	USING MNEMONICS TO TEACH PRONOUNS (USED AS SUBJECT) IN BASIC SENTENCE	280
314	B	TAX WHEEL -YOUR COMPANY TAX ALERT	281
315	B	“MESOCARP BRICK” INVENTION TOWARDS GREEN BUILDING MATERIALS	282
316	B	PRESERVATION FOR THE LAST SINGGORA	283
317	B	SCULPTURAL SIGNAGE FOR THE MAH MERI INDIGENOUS COMMUNITY	284
318	B	A NEW DIRECTION IN STUDY AND APPLICATION OF TRONG CLAY AND SRAL2O4:EU2+, DY3+ PERSISTENT PHOSPHOR	285
319	B	ARTABLEWARE TOWARDS NEW LIFESTYLE	286
320	B	M-PERAK DISCOVERY	287
321	B	EXAMINATION SEATING SYSTEM	287
322	B	“A” MATHS POTENTIAL PROGRAM: A TECHNOLOGY-BASED T&L APPROACH	288
323	B	O‘ BENCH	288
324	B	LANGKASUKA COFFEE TABLE	289
325	B	RICE WEEVILS’ TRAP	290
326	B	THE AWQAF HOTEL i-PORTFOLIO	291
327	B	METAMORPHOSIS (TRANSFORMATION TRADITIONAL MALAY MALE ATTIRE)	292
328	B	METAL EMBELLISHMENT	293
329	B	EASYATTENDANCE - STUDENT ATTENDANCE DATA MANAGEMENT SYSTEM	294
330	B	IMMUNECARE	295
331	B	S2 REVITALISING SERUM	296
332	B	STAY HEALTHY, STAY RHO-BUZZ!	297
333	B	PANDANACEAE	298
334	B	DERMATX® : A NOVEL TOPICAL ANTIDERMATOPHYTOSIS	299
335	B	LEARNING THE CHEMISTRY OF TEA	300
336	B	ELIX_ORL®: ADJUVANT THERAPY FOR ORAL CANCER	301
337	B	CYTOMIN® DIETARY SUPPLEMENT	302
338	B	B’STEM BAR® AND B’STEM PLUS®: BANANA PSEUDOSTEM DERIVED-ENERGY BAR AND CHEWABLE SUPPLEMENT FOR BETTER QUALITY OF LIFE	303
339	B	SUMATRANA PROGLUCO-TOLERANCE® ADJUVANT THERAPY FOR DIABETES	304
340	B	SONGKET DESIGN: REVIVING THE NEW MATERIAL FROM CORN HUSK FIBER TO COMMERCIAL CRAFTS	305
341	B	THE ‘IMARAH ISLAMIAH’ LIGHTING DESIGN	306
342	B	CONFERENCE INFORMATION MANAGEMENT SYSTEM (CIMS)	307
343	B	FOLDABLE CONTAINER DESIGN INSPIRED BY ORIGAMI	308

NO.	SESSION	PRODUCT TITLE	PAGE
344	B	JEWELLERY ENHANCEMENT: IMPLEMENTING ELECTRONIC TECHNOLOGY DEVICES	309
345	B	NEW PAMOR PATTERNS: MATERIAL FOR JEWELLERY	310
346	B	CREATIVE APPROACH IN TRANSFORMING WASTE PLASTIC BAGS INTO FASHIONABLE FOOTWEAR	311
347	B	WILL MANAGEMENT AND TRACKING SYSTEM BASED ON SYARIAH CONCEPT	312
348	B	BIOMETRIC SOLUTION FOR SECURING ELECTRONIC HEALTH RECORDS SHARING	313
349	B	WHERE R U (WRU) - SISTEM KEBERADAAN KAKITANGAN	314
350	B	ACCOUNTING RACE VERSION 1.0: ACCOUNTING FIGHTER FOR FINANCE BATTLE (FOR NON-ACCOUNTING STUDENT EDITION)	315
351	B	HALAL UNIQUE INSIGNIA (HAL-UI) FOR SMALL AND MEDIUM ENTERPRISE (SME)	316
352	B	AMAZACC RACE: THE ACCOUNTING CYCLE	317
353	B	WASTE TO WOOD: PARTICLEBOARD FROM OIL PALM TRUNK (ELAEIS GUINEENSIS) AND RESAM (DICRANOPTERIS LINEARIS)	318
354	B	PREMIUM QUALITY OF PARTICLEBOARD FROM LEUCAENA AND RUBBERWOOD	318
355	B	MALAYSIA iNDIGENOUS HERBS KNOWLEDGE MANAGEMENT SYSTEM	319
356	B	AUGMENTED REALITY WITH SPATIAL CONTIGUITY PRINCIPLE IN LEARNING SIGHT WORDS	320
357	B	PEER ASSISTED LEARNING STRATEGIES (PALS) FOR PREPARATORY STUDENTS IN MATHEMATICS	321
358	B	INTERACTIVE TIME TRAVEL	321
359	B	A NOVEL FABRICATION OF AZO NANOROD ARRAYS BASED ORDERED BULK HETEROJUNCTION HYBRID SOLAR CELLS	322
360	B	ENERGY SAVING OUTLET SOCKET	323
361	B	LIGHTWEIGHT CRYPTOGRAPHIC COMPUTATION FOR SMART DEVICES	323
362	B	EASY ACCESS ATTENDANCE MANAGEMENT SYSTEM (EAMS)	324
363	B	RECONFIGURABLE BACK-TO-BACK TRUNCATED RHOMBUS-LIKE SLOTTED ANTENNA FOR 5.3GHZ/5.9GHZ BAND APPLICATIONS	325
364	B	A SMART FLUORESCENT ANTENNA WITH 3G /3.75G /4G ROUTER FOR WIFI APPLICATION	326
365	B	CLUSTER IDENTIFICATION OF STATIC VAR COMPENSATOR (SVC) INSTALLATION IN BULK POWER SYSTEM FOR LOSS MINIMIZATION CONSIDERING VOLTAGE PROFILE AND COST FUNCTION USING EVOLUTIONARY PARTICLE SWARM OPTIMIZATION (EPSO) TECHNIQUE	327
366	B	DIFFERENTIAL EVOLUTION IMMUNIZED ANT COLONY OPTIMIZATION (DEIANT) FOR SOLVING EMISSION DISPATCH PROBLEM	328
367	B	POTENTIAL CHEMICAL DEFENCE (SECONDARY METABOLITES) IN BRINJAL (SOLANUM MELONGENA) PRODUCED BY EARLY INFESTATION OF PEST (WHITEFLY, BEMISIA TABACI) AS BIO-PESTICIDE FOR CONTROLLING HERBIVOROUS PESTS	329
368	B	KITCHEN WASTE COMPOST	330
369	B	OPDC NATURAL POLYMER COMPOSITE FROM PALM BIOMASS	331
370	B	BIO ORGANIC PLANT TISSUE CULTURE MEDIA FROM AGRICULTURAL WASTE	332
371	B	A SIMPLE AND COST-EFFECTIVE EQUIPMENT FOR INSECTS SAMPLING ON PINEAPPLE CULTIVATION	333
372	B	ASYMMETRY EFFECT OF INTERCROPPING NON HOST CROPS BETWEEN CABBAGE AND CLIMATIC FACTOR ON THE POPULATION OF THE DIAMONDBACK MOTH (PLUTELLA XYLOSTELLA L.) AND YIELD	334
373	B	POMICS: A SIMULATION DISEASE MODEL FOR MANAGING POWDERY MILDEW OF CUCURBITS	335
374	B	ENHANCEMENT OF BETA-CAROTENE IN SWEET POTATO THROUGH EFB COMPOST APPLICATION AN AGRICULTURAL WASTE PRODUCT	336
375	B	DIVERSITY AND DISTRIBUTION OF CLASS INSECTA IN PADDY FIELD OF SUNGAI BURONG, SELANGOR	337

NO.	SESSION	PRODUCT TITLE	PAGE
376	B	ETHYL FORMATE AS METHYL BROMIDE REPLACEMENT FOR PHYTOSANITARY ON URBAN PEST CONTROL	338
377	B	THE EFFICIENCY OF ZAKAT COLLECTION AND DISTRIBUTION: EVIDENCE FROM TWO STAGE ANALYSIS	339
378	B	SCA V2	340
379	B	PARKING CARD	341
380	B	INTELLIGENT EVENT COSTING SYSTEM (ICOS)	342
381	B	VENDING PHOTOCOPY MACHINE	343
382	B	MEERA (MALAYSIAN ECO-FRIENDLY & ECONOMICAL RAINWATER ACCUMULATOR)	343
383	B	TRACKING CUSTOMER BEHAVIOR PATTERN VIA CUSTOMER LOYALTY INDICATOR (CLI)	344
384	B	GREEN EVENT ATTENDEES' BEHAVIOR KEY INDICATOR TOWARDS SUSTAINABLE EVENTS	345
385	B	RADARSAT RAIN WATCH	346
386	B	SBI FOR SUB-BASE IMPROVER	347
387	B	THE SECRET: ENHANCED MECHANICAL PERFORMANCE OF STONE MASTIC ASPHALT (SMA14) USING PROCESSED BOTTOM ASH	347
388	B	C+W MIX DESIGN	348
389	B	THE INNOVATION AND DEVELOPMENT OF USED COOKING OIL AS FOAMING AGENT IN THE APPLICATION OF CIVIL ENGINEERING MATERIALS	349
390	B	GREEN MATERIAL FOR ROAD PAVEMENT: LOW ENERGY, WARM MIX ASPHALT WITH HIGH RECYCLED MATERIAL CONTENT	350
391	B	ECO-POTTERY PRODUCT FROM WATER TREATMENT SLUDGE	351
392	B	HALF-LAP TCC JOINT	352
393	B	LITE PAVER	353
394	B	INTEGRATED ACCOUNTABILITY SYSTEM	354
395	B	COMPOSITE INTEGRITY INDEX (CII) FOR PUBLIC AND PRIVATE SECTORS ORGANIZATIONS : THE NEW FRONTIER	355
396	B	ISLAMIC CORPORATE SOCIAL RESPONSIBILITY STATEMENT OF RECOMMENDED PRACTICE (ICSR SORP)	356
397	B	I-TRITS (INDIVIDUAL TAX RETURN INTEGRITY & TRANSPARENCY SYSTEM)	357
398	B	FINANCIAL HEALTH CHECK-UP KIT FOR LOCAL AUTHORITIES TOWARDS BETTER GOVERNANCE	358
399	B	APLS	359
400	B	SELF-GOVERNANCE ASSESSMENT TOOL FOR SOCIAL ENTREPRENEURS	360
401	B	RISK MANAGEMENT ASSESSMENT TOOL FOR SOCIAL ENTREPRENEURS	361
402	B	SRQ-REFORM	362
403	B	SOCIAL COLLATERAL ANALYSER (SCA)	363
404	B	TES FOR SIMPLIFYING GRAMMAR	364
405	B	THE DIAMOND MODEL AND MOVIE	365
406	B	AL-FUKAAHAH: ILUSTRASI & CERITA HUMOR BAHASA ARAB	366
407	B	E-COPA: CHARITY ORGANISATIONS PERFORMANCE ANALYSIS	367
408	B	COMPUTATION OF INDIVIDUAL TAX DESIGN (CINTA DESIGN)	368
409	B	I-TRACKS A SOLUTION TO TRAVEL SAFETY	369
410	B	COMMERCIALIZATION OF PITHECELLOBIUM JIRINGA	369
411	B	RISK PREDICTION FOR MICRO ENTERPRESIS (RPM-I)	370
412	B	CLIENT-SERVER ARCHITECTURE FOR COORDINATING INTERNSHIP PLACEMENT USING CLOUD COMPUTING SERVICES	371

NO.	SESSION	PRODUCT TITLE	PAGE
413	B	INTEGRATED DOCUMENT MANAGEMENT FOR ACADEMIC QUALITY ASSURANCE SYSTEM - IDMQA	372
414	B	EF-HEALING-PESTICIDE	373
415	B	GREEN-MIX CONCRETE	374
416	B	AXIOMATIC-BASED HSC DESIGN METHODOLOGY	375
417	B	ECO-FRIENDLY ENGINEERED SOIL	376
418	B	PZT-AD5933 BASED COMPACTION MONITORING SYSTEM	377
419	B	AEROPONIC PRODUCTION UNIT FOR PRODUCTION OF MYCORRHIZAL INOCULANTS	378
420	B	BAMBOO DEODORIZING KRAFT PAPER	379
421	B	PCAR RELATIONSHIP OF GREEN ANNOUCEMENT AND FIRM VALUE: CASE OF MALAYSIAN LISTED FIRMS	380
422	B	ENHANCEMENT OF TERENGGANU BRASSWARE CRAFT DESIGN AND MANUFACTURING PROCESS: THE WAX PATTERN INNOVATION	380
423	B	PERFORMANCE OF REAL TIME LIP SYNC ANIMATION ON VISEME BASED HUMAN SPEECH	381
424	B	SAGO WASTE MODIFIED AS OF ALTERNATIVES IN BATIK BLOCK	382
425	B	REVOLUTION OF LEAN SIX SIGMA PERFORMANCE IMPROVEMENT (RLSSPI): EDUCATION SIMULATION AND BUSINESS ASSESSMENT TOOL	383
426	B	CHECKERS SPORT	384
427	B	PIXEL VALUE GRAPHICAL PASSWORD SCHEME	384
428	B	MYU-TECH: A MODEL ON UBIQUITOUS TECHNOLOGY UTILISATION	385
429	B	RICE HUSK CHAR FOR HEAVY METAL ADSORPTION	386
430	B	D.I.Y. FIRE RETARDANT PAINT	387
431	B	THE POTENTIAL OF DISPOSED BANANA TRUNKS AS THE MEDIUM OF THE NEW PLANTATION	388
432	B	MOTORCYCLE TIRE REPAIRING KITS	388
433	B	DESIGN OF ANGLE JIG WELDING	389
434	B	BLACK AIR GUN	389
435	B	SMART TRAP	390
436	B	SUPER GREEN PORTABLE HYDRO GENERATOR	390
437	B	VEIN VIEWER	391
438	B	ECO INSULATOR USING IMPERATA CYLINDRICA AND CALCIUM CARBONATE	392
439	B	GREEN BRICK	393
440	B	TWO LIVES SEAT BELT	393
441	B	MOBILE WELDING FUMES EXTRACTOR	394
442	B	FIND THE RIGHT WAY	395
443	B	ECO-AIR PURIFIER 2.0	396
444	B	ECO-RAIN	396
445	B	AUTOMATED WATERING SYSTEM (AWaS)	397
446	B	C.A.P ALARM	398
447	B	MIRACLE ROSELLE- BIOACTIVE CHEMICALS OF HIBISCUS SABDARIFFA (ROSELLE) AS POTENTIAL NATURAL ANTIOXIDANT FOR BIODIESEL	398
448	B	ROAR & RUN: AN ALTERNATIVE WAY TO GET RID OF MONKEYS	399
449	B	SOLAR-GEN	400
450	B	IBUSSTOP	401
451	B	Q-AUTO FLIP	402
452	B	IN VITRO EFFICACY OF THE ANTIFUNGAL ACTIVITY OF KAEMPFERIA GALANGA LINN	403
453	B	'PALF' AS ALTERNATIVE IN NOVELTY COMPOSITE	404
454	B	REUSE WASTE AND SAVE THE WORLD: FIBER REINFORCED 'CB' MADE FROM EMPTY FRUIT BUNCH (EFB)	405
455	B	SUSTAINABLE PINAPULP FROM AGRICULTURAL WASTE	406
456	B	FROM WASTE TO WEALTH: 'PARBO' FROM BIOMASS WASTE OF PALM OIL	407

NO.	SESSION	PRODUCT TITLE	PAGE
457	B	REENGINEERING DATA MANAGEMENT FOR MULTI LOCATION BUSINESS	408
458	B	LOYALTY PROGRAM SMART INDICATOR	409
459	B	"FOLDABLE CONTAINER DESIGN INSPIRED BY ORIGAMI"	410
460	B	INTELLIGENT CAREER RECOMMENDATION SYSTEM (I-CAREER)	411
461	B	EMBEDDED WIRELESS MOTION DETECTOR DEVICE ON CONVENTIONAL INSECT TRAP FOR ANALYSIS PURPOSE	412
462	B	PLASTIC: TRANSFORMATION WOVEN TECHNIQUE TO PRODUCT DESIGN	413
463	B	THE UNIQUENESS GLASS PRODUCE ARTISTIC LAMP (UGAL)	414
464	B	A DEVELOPMENT OF MICROTAKAFUL PRODUCT : A CASE STUDY IN MALAYSIA	415
465	B	E-FHB CHECKLIST & CALCULATOR	416
466	B	DIVERSITY AND DISTRIBUTION OF INSECTS IN PADDY FIELD OF SUNGAI BURONG, SELANGOR	417
467	B	SCHOOLBOARD: SCHOOL EXECUTIVE INFORMATION SYSTEM	418
468	B	GREEN CARBON: A NOVEL HYDRO FILTER	419
469	B	EASY HYDRAULIC JACK EXTRUDER (EHJE)	420
470	B	BIO-INSPIRED ARTIFICIAL HAIR CELL (AHC) MEMS	421
471	B	PALAPES MILITHRILL BASICOMBAT	422
472	B	BREAD SUBSTITUTED WITH MANGOSTEEN PERICARP FLOUR	423
473	B	TAKOB AKOB SPARKLING JUICE	424
474	B	ESSENTIAL OIL OF TUHAU	425
475	B	UiTM VEHICLE BOOKING SYSTEM (UVEBS)	426
476	B	ACCOUNTING CIRCUS: CLOWNS GETTING INTO THE ACT!	427
477	B	MINI FOLDABLE SLIM MOBILE PROJECTOR INNOVATION	428
478	B	LYLEEN WHANGIE VERSION 1.0	429
479	B	E-PES VERSION 1.0	430
480	B	PERSPEX MODULAR DISPLAY AND TEXT STAND FOR ARTIFACT DISPLAY SHOWCASE IN MUSEUM	431
481	B	AKUSTIKASTOOL	432
482	B	KITTY'S COMFORT SEAT	433
483	B	TASBIH TAG VERSION 2.0	434
484	B	SURVEYOR BACKPACK TOOL BAG	435
485	B	M1S 'LEARN'	436
486	B	TRAVELMATE BACKPACK	437
487	B	CUTIE DRY SMART TRAVEL KIDS	438
488	B	ALTERNATIVE MATERIAL (MANIHOT ESCULENTA CRANTZ) IN PRODUCING CRAFT PAPER	438
489	B	SMART TRAP	439
490	B	SOCIAL COLLATERAL ANALYSER (SCA)	440
491	B	SONGKET DESIGN: REVIVING THE NEW MATERIAL FROM CORN HUSK FIBER TO COMMERCIAL CRAFTS	441
492	B	SOLAR-GEN	442
493	B	SRQ-REFORM	443
494	B	STAY HEALTHY, STAY RHO-BUZZ!	444
495	B	SUPER GREEN PORTABLE HYDRO GENERATOR	445
496	B	SUPERB INO TECH WATER HEATER	445
497	B	SURVEYOR BACKPACK TOOL BAG	446
498	B	SUSTAINABLE PINAPULP FROM AGRICULTURAL WASTE	447
499	B	POSTURA MOTERGO: NEW REVOLUTIONARY MOTORCYCLE TEST RIG	448
500	B	TAKOB AKOB SPARKLING JUICE	449
501	B	TASBIH TAG VERSION 2.0	450

NO.	SESSION	PRODUCT TITLE	PAGE
502	B	TAX WHEEL -YOUR COMPANY TAX ALERT	451
503	B	T-BRICK	452
504	B	TEACHING KIT FOR ART TEACHERS: IMPASTO (T-KAT: IMPASTO)	453
505	B	TES FOR SIMPLIFYING GRAMMAR	454
506	B	THE DIAMOND MODEL AND MOVIE	455
507	B	THE EFFICIENCY OF ZAKAT COLLECTION AND DISTRIBUTION: EVIDENCE FROM TWO STAGE ANALYSIS	456
508	B	THE INNOVATION AND DEVELOPMENT OF USED COOKING OIL AS FOAMING AGENT IN THE APPLICATION OF CIVIL ENGINEERING MATERIALS	457
509	B	THE MODIFICATION OF PAINTBALL SPORTWEAR IN FULFILLING THE SAFETY REQUIREMENT	458
510	B	THE POTENTIAL OF CASSAVA STARCH IN MAKING BIODEGRADABLE PLASTIC AND ENVIRON-MENTAL-FRIENDLY PRODUCT	459
511	B	THE POTENTIAL OF DISPOSED BANANA TRUNKS AS THE MEDIUM OF THE NEW PLANTATION	459
512	B	THE POTENTIAL OF HAIR AS PROTECTIVE COAT FOR PLANT FROM ACID RAIN	460
513	B	THE SECRET: ENHANCED MECHANICAL PERFORMANCE OF STONE MASTIC ASPHALT (SMA14) USING PROCESSED BOTTOM ASH	460
514	B	THE SLURPPER: GAS OPERATED SUPER SUCTION & SPRAY DEVICE (GOSÂ³D)	461
515	B	THE UNIQUENESS GLASS PRODUCE ARTISTIC LAMP (uGAL)	462
516	B	TRACKING CUSTOMER BEHAVIOR PATTERN VIA CUSTOMER LOYALTY INDICATOR (CLI)	463
517	B	TRAVELMATE BACKPACK	464
518	B	TRIAXIAL TEMPLATE FOR TUDUNG SAJI WEAVING	465
519	B	TWO LIVES SEAT BELT	466
520	B	UiTM VEHICLE BOOKING SYSTEM (UVEBS)	467
521	B	USING MNEMONICS TO TEACH PRONOUNS (USED AS SUBJECT) IN BASIC SENTENCE	468
522	B	VEIN VIEWER	469
523	B	VENDING PHOTOCOPY MACHINE	470
524	B	WALKY WALKER FOR KIDS (DISABLE)	471
525	B	WASTE TO WOOD: PARTICLEBOARD FROM OIL PALM TRUNK (ELAEIS GUINEENSIS) AND RESAM (DICRANOPTERIS LINEARIS)	471
526	B	WASTED DIAPERS AS PLANT WATER RETAINER AND BIO-FERTILIZER	472
527	B	WHERE R U (WRU) - SISTEM KEBERADAAN KAKITANGAN	473
528	B	WILL MANAGEMENT AND TRACKING SYSTEM BASED ON SYARIAH CONCEPT	474
529	B	ZAFFIN : THE IDIOSYNCRATIC ASPECT OF MALAYS DESIGN FURNITURE	475
530	B	ZAKAT PERFORMANCE INDEX	476
531	B	THE AWQAF HOTEL i-PORTFOLIO	477
535	B	RELATIONSHIP OF GREEN ANNOUNCEMENT AND FIRM VALUE: CASE OF MALAYSIAN LIST-ED FIRMS	478
536	B	ENHANCEMENT OF TERENGGANU BRASSWARE CRAFT DESIGN AND MANUFACTURING PROCESS: THE WAX PATTERN INNOVATION	479
537	B	VISUALIZING MALAY CULTURAL BELIEFS IN THE FORM OF VISUAL-TACTILE DESIGN	480
535	A	POSTMAN COMPARTMENT VEST	481
536	A	PEMBANGUNAN MODUL PEDAGOGI RESPONSIF BUDAYA KRAF TRADISIONAL PENDIDIKAN SENI VISUAL	482
537	A	D3D PROJECT	483
538	B	WARNA DAN JALINAN: SIRI DATA VISUAL DARI EKPLORASI ALAM	484
539	B	DARS SARI': PEMBELAJARAN PENULISAN SENI KHAT SECARA PANTAS & EFEKTIF (DARS SARI': FAST & EFFECTIVE LEARNING IN KHAT WRITING METHOD)	485
540	B	INSTRUMENT KEUSAHAWANAN - PROGRAM PEMBORONGAN	486
541	B	DURIAN PEELER MECHANISME	487
542	B	Q-BELT	488
543	B	VIBRATING BRACELET WITH LED	489

NO.	SESSION	PRODUCT TITLE	PAGE
544	B	RESISTOR EDUCATIONAL KIT	490
545	B	PORTABLE CAR VOLTAGE STABILIZER	491
546	B	MOM'S DIARY	492
547	B	SISTEM INTEGRASI PENGURUSAN PENYERTAAN INOVASI	493
548	B	HEALING WALL : PORTABLE ERGONOMETRIC MURAL	494
549	B	AROWANA	495
550	B	SCRAP METAL CAPRA	495
551	B	APLIKASI MOTIF BATIK SARUNG DALAM REKAAN JUBIN	496
552	B	MIRACLE HAND WASH GEL	497
553	B	BAJA BIO ORGANIK GETAH	498
554	B	PENAWAR GOUT	499
555	B	MY TRIGONA BEE HONEY (MyTBHoney)	500
556	B	LIBRARY SERVICES RESERVATION SYSTEM (LiSReS)	501
557	B	TEKNIK INOVASI VIDEO ILMIAH DALAM PENGAJARAN FUNDAMENTAL PROGRAMMING	502
558	B	REKACADANG ARCA AWAM 'BERAT LAGI BAHU MEMIKUL'	503
559	B	MEMERTABATKAN DAN MENGKOMERSILKAN REKACORAK TEKSTIL MACHANG (REKA CORAK TEKSTIL YANG MENCERMINKAN IDENTITI DAERAH MACHANG, KELANTAN)	504
560	B	KRAF: PERSPEKTIF BARU SENI LOGAM DAN BATIK	505
561	B	SISTEM PENGURUSAN MAKLUMAT WAKAF POKOK: KAEDAH PENJANAAN MODAL DALAM PEMBANGUNAN EKONOMI WAKAF DI MALAYSIA DALAM SEKTOR PERLADANGAN	506
562	B	ONE BOOK, ONE SMART BOOKMARK	507
563	B	PINGO (PLAY IT 'N' GET OUTCOME)	507
564	B	SISTEM MENANGKAP GAMBAR PENGGUNA PALSU TELEFON BIMBIT	508
565	B	WIRING FAULT TESTER	509
566	B	AL-QURAN PORTABLE DISPOSAL MACHINE AS AN EFFICIENT ALTERNATIVE TO DISPOSE AL-QURAN	509
567	B	GREEN TECH HIGH CAPACITY BIN	510
568	B	MULTI FUNCTION DESK-FLIP MOUNTING BOARD FOR PRIMARY SCHOOL	511
569	B	FUNBAG SCHOOL BAG	512
570	B	PARKET TEMPURUNG-PETAI BELALANG	513
571	B	MOM'S CHOICE: FRUITY PUREE ICE CREAM	514
572	B	SMART D'CASE	514
573	B	BUTTERFLY MONARCH	515
574	B	KALLIGHT : CALLIGRAPHY ART FOR CREATIVE DECORATION AND EDUCATION	515
575	B	5S TRAINING METHOD TOOL: VISUAL INTERACTIF (V1-5S)	516
576	B	SMART SAFETY SIGNAGE	517
577	B	TEKNIK INOVASI VIDEO ILMIAH DALAM PENGAJARAN FUNDAMENTAL PROGRAMMING	518
578	B	THO RESTING CHAIR	519
579	B	TST CLEANER	520

CASSIA AURICULATA CAPSULES

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Liver cancer is one of the most common causes of cancer related death in the world; it is formed by either the liver itself or from structures within the liver, including blood vessels or the bile ducts. Many factors can contribute to induce cancer, including free radicals, which are one of the important factors involved in causing various types of cancer by causing DNA damage, and modulating gene expression of proto-oncogenes and tumour suppressor genes. Cassia auriculata Capsules is a promising product formulated with polyphenols from the finest grade of cassia auriculata flowers which prevent free radical induced tissue damage by preventing the formation of radicals, scavenging them or by promoting their decomposition and also it up regulated the tumour suppressor gene and other genes related to apoptosis machinery. Many studies have indicated the relationship between polyphenol intake and reduced risk of certain cancers, beyond its rich content of antioxidant, it also decreases the levels of total cholesterol, triglyceride, low density lipoprotein-cholesterol levels and increased the high density lipoprotein in the blood which might enhanced because of the disruption of liver function. In addition, the current used treatments for cancer such as chemotherapy, surgical and radiation has provided significant survival benefits for patients with cancer. However, it is associated with significant normal tissue toxicity, highlighting the need for therapeutic strategies that target tumour cells without compromising normal tissue function. In addition, serious side effects have associated with chemotherapy drugs such as haematological toxicities, deadening of sensory nerves (peripheral neuropathy), and hair loss adverse cardiac effect. This product showed very promising results in vitro studies by displayed specific antiproliferative effect against liver cancer cells, elicited minimal cytotoxic effect against embryonic normal liver. Thus it is killing or slowing the growth of fast growing cells and it may help to kill the remaining of cancer cells after surgery. in addition, one of the disadvantage of current chemotherapy treatment used, it might induce necrosis rather than apoptosis, which is unwanted processes marked by cellular swelling which eventually leading to cellular and nuclear lysis with subsequent inflammation. Cassia auriculata capsules markedly induced apoptosis by up regulation of p53 gene which play an important role in inducing apoptosis, Bax- pro apoptotic and caspase-3 and down regulation of Bcl-2 gene which is known as anti-apoptotic gene. Thus, this product provides a blend of many effects by it abundant content of polyphenol, decrease triglyceride and cholesterol levels, hepatoprotective effect, induce apoptosis markedly and up-regulated its related genes. All these findings suggest that Cassia auriculata Capsules might be a promising adjuvant therapy for liver cancer to reduce symptoms and to enrich and promote excellent quality of life.