

**COMPARATIVE STATEMENT FOR 551(100336) NEW NAME (1085)- PROVISION OF INFRASTRUCTURE FACILITIES & EQUIPMENT TO THE UPGRADED GPIS AT
TIMERGARA, TAKHTBHAI, SWABI, ABBOTTABAD, KOHAT, NOWSHERA TO THE LEVEL OF COLLEGE OF TECHNOLOGY
DATE OF TENDER OPENING 09-06-2021
(Physics)**

Item No.	Name of Items	M/S Electrical Engineering Services, Lahore							Anmol Scientific Company, Lahore							Take Care International, Peshawar									
		C.S		P.C		P.L.P		T	Model	C.S		P.C		P.L.P		T	Model	C.S		P.C		P.L.P		T	Model
		40	5	5	2	4	4	60		40	5	5	2	4	4	60		40	5	5	2	4	4	60	
1	Resonance tube apparatus ,length 1 meter: With Plastic tube 840×25mm mounted on record with 500ml Plastic tube bulb.	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-111 (PAK)	40	0	5	0	0	4	49	PAK
2	Sonometer with slotted weights and two wedges: Wooden resonance box with two rules 1m long. one each brass and steel wires.two moveable bridges pulley and fixed screws, slotted weights ½ kg×4,1 kg×4 ,2 kg×4	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-112 (PAK)	40	0	5	0	0	4	49	China
3	Linear Expansion apparatus with metal rod and Accessories: Apparatus added with spherometer, glass jacket enclose Brass, Iron, Aluminum and a Copper rod within Error scale having differently colored pointers. Accessories: Brass, Iron, Aluminum ,Copper rods	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-113 (PAK)	40	0	5	0	0	4	49	PAK
4	Steam generator: Aluminum vessel with cork lid and retainer on an adjustable hot plate with thermal circuit breaker, volume 250 ml	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-114 (PAK)	40	0	5	0	0	4	49	PAK
5	Sextant: Student model, Comprising 220mm radius, with sighter adjustable half mirror and scale 0 to 130 with Vernier reading to five minimum in wooden case.	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-115 (PAK)	40	0	5	0	0	4	49	PAK
6	Set of weights: 13 pieces set of Brass weights in storage block. 1×1g,2×2g,1×5g,1×10g,2×20g,1×50g,1×100g,2×200g,1×500g,1×1000g.	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-116 (PAK)	40	0	5	0	0	4	49	China

7	Kundt's tube with scale and Accessories: Transparent acrylic tube with scale and end plates with tubing nozzles for filling with various gases, built-in speaker at one end, a bore and guide for accommodating moving piston or probe microphone at the other end. Includes retaining clips for mounting on stands and a connector lead for the speaker,length 1000mm,dia 70mm, tube nozzle 7mm dia. Accessories for each set: 1Probe micro phone with frequency range 20Hz-20000Hz with DIN plug for battery box,barrel foot, 1function generator (230V,50Hz),1 whistle,a 1700Hz tuning fork,1 bottle of corkpowder.	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-117 (PAK)	40	0	5	0	0	4	49	PAK
8	Hook's law apparatus with helical spring: Pointer and scale graduated in cm and mm hanging weights 6×50gm, 5 helical springs of lengths 120mm, 145mm, 150mm. 147mm,142mm.	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-118 (PAK)	40	0	5	0	0	4	49	PAK	
9	Convex lenses: Of different focal lengths from 10 cm to 50 cm	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-119 (PAK)	40	0	5	0	0	4	49	PAK		
10	Concave lenses: Of different focal lengths from 10 cm to 50 cm	0	0	0	0	0	Not Qouted	40	0	0	0	0	0	44	ASC-P-120 (PAK)	40	0	5	0	0	4	49	PAK		
11	Concave mirrors: Of different focal lengths from 10 cm to 50 cm	0	0	0	0	0	Not Qouted	40	0	0	0	0	0	44	ASC-P-121 (PAK)	40	0	5	0	0	4	49	PAK		
12	Convex mirrors: Of different focal lengths from 10 cm to 50 cm	0	0	0	0	0	Not Qouted	40	0	0	0	0	0	44	ASC-P-122 (PAK)	40	0	5	0	0	4	49	PAK		
13	Fletcher trolley complete: Light metal track 1720×150 min wide with leveling feet covered with stops at either end, aluminum pulley 50mm dia. clamp for vibrator and automatic Pen release. Metal trolley with three wheels mounted.on ball bearings. Five hooks to accommodate cylindrical masses approximate 350 gm. Vibrator 60 mm long with clamping works at 5 and 8Hz and Pen holder to take fibertip type of pen.	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-123 (PAK)	40	0	5	0	0	4	49	PAK		

14	Single ray projector with accessories: Light source for experiments on optics, connecting line 1.5m long with 4mm plug dimension 120mm×70mm dia. magnetic holder for single ray projector 12V, 60VA (230V, 50Hz), Halogen lamp 12V, 35W.	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-124 (PAK)	40	0	5	0	0	4	49	PAK
15	Multiple ray projectors, magnetic with accessories: Light source for optics. Lamp 12V, 55W connecting line 1.5 meter long with 4mm Plug. Dimension 150 × 200 × 50mm3 Transformer 12V, 60 VA9230, 50Hz) Halogen Lamp 12V, 55W.	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-125 (PAK)	40	0	5	0	0	4	49	PAK	
16	Optics kit for white board: Plan mirror (plastic) 200×35×35mm3. Convex, concave mirror f= ±100mm 200×35×35mm3. Plano Concave lens (Acrylic glass), f= 400mm, 200×40×35mm3. Plan parallel Plate (Acrylic glass) 200×100×35mm3. Semicircular body, f=200mm dia. 200×35mm2 (Acrylic glass) Right angled prism 200×200×35mm2 (acrylic glass) Cubide (Plastic) 100×20× 35mm3 Cylinder (plastic), dia. 5×35mm2 Cylinder(plastic) dia. 6×35mm2	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-126 (PAK)	40	0	5	0	0	4	49	PAK	
17	Heat equivalent apparatus: Consist of a shaft with ball bearing at both ends, an integrated counter for measuring the number of revolutions and an attached table clamp. 1 basic unit, 1 Aluminum calorimeter, 1 temperature sensor, 1 pair of adopter cables with 4mm safety plugs / 2mm plugs, 1 fraction belt, 1 bucket of 5 liter, 1 counter weight, cord of length 1.80m and temperature calibration table.	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-127 (PAK)	40	0	5	0	0	4	49	PAK	

<p>18</p>	<p>Optical bench complete with all standard accessories: Optical bench: Optics Track (1.2 m) rugged aluminum track. The metric tape makes position, measurements easy. Accessories: Light Source has a lighted crossed arrow target with metric scale for focusing images through lenses or using with the concave mirror. Acts as a point light source, 1, 3, or 5 parallel rays, or red-green-blue rays. Lenses:4 - 50 mm diameter. Lens's focal lengths +100, +200, +250,-150 mm mounted in protective holders. Concave/Convex Mirror: 50 mm diameter plastic mirror with reflective surface on both sides. Includes "half-screen" upon which the image is focused. Adjustable Lens Holder: from 19 mm to 75 mm in diameter. Storage Box:Everything fits neatly into the protective storage box, with the exception of the 1.2 meter Optics Track. 1 transparent screen, 1 white screen. 1 pin hole aperture d=1mm 1 pin hole aperture d=6mm</p>	0	0	0	0	0	0	0	<p>Not Qouted</p>	40	0	0	0	4	0	44	<p>ASC-P-128 (PAK)</p>	40	0	5	0	0	4	49	<p>PAK</p>
<p>19</p>	<p>Electrical calorimeter (1200ml) with accessories: Consist of a double walled, heat insulating plastic container with insulating vessel inside made of reflecting glass with heating coil and stirrer. Accessories: Aluminum shot 100g, copper shot 200g, glass shot 100g, granules for filling calorimeter.</p>	0	0	0	0	0	0	<p>Not Qouted</p>	40	0	0	0	4	0	44	<p>ASC-P-129 (PAK)</p>	40	0	5	0	0	4	49	<p>PAK</p>	
<p>20</p>	<p>Precision hair Hygrometer: Consist of a round plastic housing with a human hair Measuring range:0%----100% relative humidity Temperature range: 35c-+65% 0C Reading accuracy: ±5% Diameter: 100mm</p>	0	0	0	0	0	0	<p>Not qouted</p>	40	0	0	0	4	0	44	<p>ASC-P-130 (PAK)</p>	40	0	5	0	0	4	49	<p>PAK</p>	

21	<p>Torsion apparatus: Searle horizontal pattern. Two cast iron feet and grub securing screws separated by two support rods approx. 700mm long, wheel 165mm dia. moving in ball bearings, mounted on front foot, other end supported with clamping block through rear foot with two aluminum scales graduated with 30-0-30 in single degree mounted on pillar support, two pointers with clamp for attaching to specimen, one each Brass and Steel rods 5mm diameter, chord and hook for carrying masses and two spanners for clamping block nuts.</p>	40	0	0	2	4	4	50	SM-1470 (PAK)	40	0	0	0	4	0	44	ASC-P-131 (PAK)	40	0	5	0	0	4	49	PAK
22	<p>Differential pulley: One piece aluminum with diameter of 38.5 mm & 63.5mm mounted in a metal frame with hook.</p>	40	0	0	2	0	4	46	IT-11 (PAK)	40	0	0	0	4	0	44	ASC-P-132 (PAK)	40	0	5	0	0	4	49	PAK
23	<p>Differential wheel and axle; compound wheel and axle with cast aluminum alloy block Comprising wheel 100mm diameter and axle 50mm & 25mm diameter mounted on adjustable steel cones and steel frame, wood back board with four holes for wall mounting, complete 5m nylon cord and steel hook.</p>	0	0	0	0	0	0	0	Not Quoted	40	0	0	0	4	0	44	ASC-P-133 (PAK)	40	0	5	0	0	4	49	PAK
24	<p>Maxwell's needle with accessories: Hollow metal cylinder 200mm long pointer and chuck to accommodate wires up to 20swg with each hollow and solid cylinders 50mm long tripod, stand with rod 1.2m long, base with leveling screws, clamp with arms 180mm long with chuck complete with three wires 1.5m long. one Brass 26swg and one each steel 26 and 20swg.</p>	40	0	0	2	0	4	46	TM-114 (PAK)	40	0	0	0	4	0	44	ASC-P-134 (PAK)	40	0	5	0	0	4	49	PAK
25	<p>Friction measuring apparatus with Accessories: Demonstration apparatus with moveable friction surface for measuring static and dynamic friction. The track can be made inclined. Dynamometer, 3 rails for holding static bodies, three 100gm weight. Accessories: Precision dynamometer (1N range),(2N range),(10N range)</p>	40	0	0	2	0	4	46	TM-1337 (PAK)	40	0	0	0	4	0	44	ASC-P-135 (PAK)	40	0	5	0	0	4	49	PAK

26	Experiment set pulleys, block and tackle: Complete set of equipment consisting of a stable base plate, retort stand rods, pulley blocks, block and tackle, a set of pulleys of various diameters on an axle, weight holders, slotted weights with base plate 810×200mm ,pulleys 50 mm diameter, standrods 810mm×12.5 mm, slotted weights 2×10g, 2×20g,2×50, 4×100g, 4×200g, 1×500g, holders, 1×10g,1×20g,5×50g.	40	0	0	2	0	4	46	TM-1331-A (PAK)	40	0	0	0	4	0	44	ASC-P-136 (PAK)	40	0	5	0	0	4	49	PAK				
27	Reciprocating motion motor: A field coil motor connected to a rotatory to linear converter mechanism showing cross sectional view. Both motor and gear box are fully sectioned to show the method of operation. Lead from motor and gear box together taken to three 4mm sockets for connection to a 12 volts DC or AC supply mounted on plastic base complete with instructional booklet.	40	0	0	2	0	4	46	RCM-08 (PAK)	40	0	0	0	4	0	44	ASC-P-137 (PAK)	40	0	5	0	0	4	49	PAK				
28	Compound lever (Brace version): Wooden structure consisting of Front and rear legs, leaver arm, base beam, handle, arms, lever arm, beam sides, brace, feet, hex bolt, washer, fasteners.	N/Q								Not quoted				40	0	0	0	4	0	44	ASC-P-138 (PAK)	40	0	5	0	0	4	49	PAK
29	Forces in a Jib crane apparatus with complete accessories: Bench mounted. The unit consists of a metallic rod which provides the support locations for jib and tie. Load is applied via a hanger on the junction of jib and tie. To measure the deformation in jib and tie, dial gauges are connected to both elements.	N/Q								Not quoted				40	0	0	0	4	0	44	ASC-P-139 (PAK)	40	0	5	0	0	4	49	PAK
30	Simple screw jack for demonstration to students: 220 mm diameter turntable fitted with a 30 mm x 6 mm pitch screw is supported in a heavy cast iron base. Stand on a firm bench and a cord and weight hanger are wound round the rim of the turntable and hung over the pulley. The pulley runs on ball bearings to reduce friction to a minimum. To be provided with instructional manual.	40	0	0	2	0	4	46	TM-1303 (PAK)	40	0	0	0	4	0	44	ASC-P-140 (PAK)	40	0	5	0	0	4	49	PAK				
31	Inclined plane: Metal base and inclined surface plane hinged with scales for angles, length and height. angle of inclination between 0-45, adjustable pulley, roller weight pan and cord.	N/Q								Not quoted				40	0	0	0	4	0	44	ASC-P-141 (PAK)	40	0	5	0	0	4	49	PAK

32	<p>Simple harmonic module/apparatus: Consist of a black metal disc, 200mm dia supported vertically on a clear plastic base fitted with feet. A white marker 13mm dia may be made to follow a circular orbit about the central of the disc. A similar marker move in a slot along the diameter of the disc in phase with the peripheral marker performing SHM when the peripheral marker caused to rotate at uniform speed .The disc is marked with cords and radial lines to assist in locating the relative marker positions.</p>	0	0	0	0	0	0	0	Not quoted	40	0	0	0	4	0	44	ASC-P-142 (PAK)	40	0	5	0	0	4	49	PAK
33	<p>Worm and wheel apparatus: Wall-mounted, to study a way of connecting 2 shafts at right angles. Gear sets for 1, 2, 3 and 4 start worm and wheel units; interchangeable to fit on a rigid steel back plate. Two load hangers and weights set.</p>	40	0	0	2	0	4	46	TM-1307 (PAK)	40	0	0	0	4	0	44	ASC-P-143 (PAK)	40	0	5	0	0	4	49	PAK
34	<p>Derrick Crane: Bench-top, for analysis of internal forces in a pin-jointed framework. Deflection measured by individually calibrated leaf-spring balances. Movement measured by digital Vernier. Load hanger, loading weights, link and digital caliper.</p>	40	0	0	2	0	4	46	TM-165D (PAK)	40	0	0	0	4	0	44	ASC-P-144 (PAK)	40	0	5	0	0	4	49	PAK
35	<p>Gearing elements to illustrate simple mechanical belt and gear wheel drives: Gearing elements consisting of base plate, belt pulley(35mm diameter), belt pulley (70mm dia.) gear wheel (20 teeth), gear wheel (40 teeth), crank handle, drive belt sets.</p>	40	0	0	2	0	4	46	TM-004 (PAK)	40	0	0	0	4	0	44	ASC-P-145 (PAK)	40	0	5	0	0	4	49	Not Mention
36	<p>Reaction of beam apparatus: Bench mounted. This apparatus is designed for simple experiments and demonstrations on simply supported beams. Two spring balances act as supports and enable reactions to be read directly. Three movable load hangers allow loads to be put in a number of positions. Levers can be investigated by suspending the beam from the free standing frame, and holding down the end with a spring balance.</p>	40	0	0	2	4	4	50	SM-1426 (PAK)	40	0	0	0	4	0	44	ASC-P-146 (PAK)	40	0	5	0	0	4	49	PAK

37	Bell crank lever:- (1) Strong table unit for demonstrating the application of moment to a crank lever. (2) Pressure gauge 50N. (3) Metal crank mounted in ball bearings. (4) Mechanical advantage min. 1:1 max. 2:1 (5) Fine compensation device for adjusting the crank so that the forces always act vertically. (6) Crank length vertical: 200mm, horizontal: 400mm. Set of weights: up to 20N along with 6 weights with carrier.	40	0	0	2	0	4	46	TM-769 (PAK)	40	0	0	0	4	0	44	ASC-P-147 (PAK)	40	0	5	0	0	4	49	PAK
38	Fractional horse power motor and Accessories: max 746 watts(single phase induction) with prony brake and revolution counter. With related accessories required for operational characteristics.	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-148 (PAK)	40	0	5	0	0	4	49	PAK
39	Fly wheel with slotted weight: Cast metal made, approx. 200mm dia×40mm thick mounted on a balanced horizontal shaft in metal bracket 280×180mm2 drilled for wall mounting.	40	0	0	2	0	4	46	TM-1301 (PAK)	40	0	0	0	4	0	44	ASC-P-149 (PAK)	40	0	5	0	0	4	49	PAK
40	Specific gravity bottle,25cc:	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-150 (PAK)	40	0	5	0	0	4	49	PAK
41	Specific gravity bottle,50cc:	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	0	0	40	ASC-P-151 (PAK)	40	0	5	0	0	4	49	PAK
42	Viscometer (Standard Size)with Accessories: Falling sphere viscometer with 6 spheres and 1 ball gauge measuring range 0.5m PaS To 7×104mPaS. Accessories: 2 sphere of Borosilicate glass,2 spheres of Ni-iron and 2 spheres of steel, thermometer 0-100C,test certificate with accurate values for spheres constant K and density ,silicon tubing(2x) immersion/circulation thermostat.	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-152 (PAK)	40	0	5	0	0	4	49	PAK
43	Photo Electric cell for determining planks constant with Accessories: Basic apparatus with photo cell, volt meter, Nano ammeter and power supply, 5 LEDs in casing with connector leads one plug in supply 12V AC, wave length 472 nm, 505 nm, 525nm, 588 nm, 611nm, Accessories for photo electric cell, Set of 15 experimental leads,75cm.	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-153 (PAK)	40	0	5	0	0	4	49	PAK

44	Galvanometer DC: Range ± 35 Micro Amp, scale division 1 Micro Amp, Internal resistance 1000 ohm.	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-154 (PAK)	40	0	5	0	0	4	49	PAK
45	Laser beam apparatus : · 0.5mw He-Ne Laser · optical bench · screen Metal bench ,guide rail with leveling plate form 500mm, laser diode driver and temperature controller, laser safety goggles. 1000mw and 100mw diode laser with built in cooler, thermistor and photo diode, lens, collimator, optical rider, mounting plate, Nd:YaG crystal. Laser mirror 1 and 2. frequency module, passive Q switch. PIN photo diode on optical rider, cylindrical lens of f = +15mm, +25mm, +45mm, collimator lens of f= +75mm, focusing lens f= +75mm, filter holder with filters, polarization filter and transport case Or Equivalent Specification.	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-155 (PAK)	40	0	5	0	0	4	49	PAK	
46	Magnets Horseshoe: Horseshoe magnet Alnico magnet with screw, Poles marked red and green pole Area approx. 20x10mm ² . Distance between poles approx. 50mm length of shank approx. 70mm.	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-156 (PAK)	40	0	5	0	0	4	49	PAK	
47	Parallel plate capacitor with Accessories: A fixed and a moveable plate on a guide rail having centimeter scale, plate separation can be finally adjusted and read off from display to an accuracy of 1/10mm plate spacing: 0-160mm, plate area 500cm ² plates solid casting. Plates can be adjusted between 0 and 20mm via a sandle. Accessories: Plastic dielectric plate 300x300x2mm ³ approx Plexiglass dielectric plate 300x300x2mm ³ approx	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-157 (PAK)	40	0	5	0	0	4	49	PAK	

48	Electric field meter (230V,50Hz.) with Accessories: Maximum output voltage: 10 VIV output can correspond to 100V/c,300V/cm,1000V/cm,10V,30V, 100V(with lx voltage measurement plate), 100V, 300V, 1000V(with 10 x voltage measurement plate), 1 capacitor measurement plate 250cm2 set Plexiglas spacers, Drip cup basin.	0	0	0	0	0	0	0	Not Qouted	40	0	0	0	4	0	44	ASC-P-158 (PAK)	40	0	5	0	0	4	49	PAK
49	Center of gravity apparatus: Comprises a rod mounted on a base with a suspension screw at the top and four laminas of clear acrylic - 1 each of circular, triangular, square and trapezoidal. Each lamina has suspension holes along their periphery.	40	0	0	2	0	4	46	FF-1104 (PAK)	40	0	0	0	4	0	44	ASC-P-159 (PAK)	40	0	5	0	0	4	49	PAK
Engr. Fazli Saeed, Lecturer (Chemical) GCT Peshawar.									Mr. Abdul Qayyum, Lecturer (Physics) GPI, Sardar Ghari Peshawar.																