DST-FIST SPONSORED INSTITUTE

Specifications details of the Equipments listed in our Advertisement Vide Number "Sir MVIT/G-75/2012-13/670" dated 17.05.2012 will appear in Deccan Herald News daily shortly.

DEPARTMENT OF CIVIL ENGINEERING

Item No. 1: Impact of Jet on Vanes – Digital Version

Quantity: 1

Specifications:

Types of vanes (Acrylic): Flat, Inclined, Curved

Jet diameters: 4 mm, 5 mm, 6 mm

Acrylic Rotameter for direct flow measurement.

Specially made Acrylic jet chamber

Monobioc Centrifugal Pump including with starter is connected to the sump tank for circulation of water.

The whole arrangement is mounted on aesthetically designed sturdy frame with all necessary instrumentation like mains on indicator, pressure gauges etc.

Item No. 2: Quality Assessment of Bituminous Pavement Set up

a) **Elastic recovery mould**

Quantity - 2 No s

Specifications:

Length	: 75mm
Distance between clips	: 30 mm
Width at mouth of clips	: 20mm
Gross section at min. width	: 10mm x 10mm
Briquette mould made up of brass metal	
Specification Codes	: IS 1208-1978

1

b) Centrifuge Extractor or Motorised Centrifuge

Quantity – 1

Specifications:

Electrically operated with adjustable speed upto a max. of 3600rpm,

Capacity 1500 grams with accessories

Extraction bowl.

As per Standard: ASTM D 2172

c) Portable Skid Resistance Tester or Pendulum tester

Quantity – 1

Specifications:

Consisting tester, Six rubber sliders, Thermometer, Setting gauge, Two spanners, Water bottle, Collapsible stool with tool tray, Tools, Translucent plastic cover.

Weight: 32 kg (dimensions 83x75x35 cm)

Base plate: 8 kg (64x48x6cm)

Detachable scale with sliders 0.35 kg (20x13x6cm)

As per Standard ASTM D: 2172-95

d) Precision Balance (Digital)

Quantity – 1

Specifications: Capacity of 600 gram with an accuracy of 0.01 gram

e) Precision Balance (Digital)

Quantity – 1

Specifications: Capacity upto 200 kg with an accuracy of 5 grams.

Item No. 3: Arc View 10 Software

Quantity – 1

Specification: ARCGIS ARCVIEW SOFTWARE Version 10.

Item No. 4: GPS Instrument (Handheld Device)

Quantity – 1

Specification: Garmin E-TREX-H or equivalent.

Item No. 5: Pneumatic Trainer Kit

Specifications:

Filter Regulator Combination with Lubricator (FRL Unit) with pressure gauge, Qty.-1

Junction Box with slide valve. Qty.-1

Push button (Green) valve –for impulse pilot operation of a SAC/DAC. Qty.-1

Push button (Red) valve –for impulse pilot operation of a SAC/DAC, Qty-1

3/2 NC Roller lever valve (Pneumatic limit switch- for reversing) –single cycle & multi cycle automation of DAC. Qty.-1

3/2 NC Roller lever valve (Pneumatic limit switch- for forwarding) –single cycle & multi cycle automation of DAC, Qty.-1

3/2 NC Roller lever valve- M5 (Pneumatic limit switch- for reversing) –single cycle & multi cycle automation of SAC, Qty.-1

3/2 NC Roller lever valve- M5 (Pneumatic limit switch- for forwarding) –single cycle & multi cycle automation of SAC, Qty.-1

5/2 Double external pilot operated valve (Memory valve)- single cycle and multi cycle automation of DAC. Qty.-4

5/2 External pilot operated valve with spring return. Qty.-1

5/2 hand lever with spring return for direct operation of SAC and DAC, Qty.-1

5/2 hand lever valve with detent for maintained pilot operation of SAC, Qty.-1

5/2 valve with lever head for maintained pilot operation/ multicycle operation, Qty.-1

5/2 Valve with mushroom head for emergency operation, Qty.-1
Flow control valve, Qty.-1

Flow control valve – Metering IN and OUT- to control the speed of DAC, Qty.-4

Shuttle Valve (OR)- for operating SAC / DAC from 2 different positions, Qty.-2

AND valve (Dual pressure valve), Qty.-1

Quick exhaust valve with Quick coupler plug – for DAC with quick return, Qty.-1

Double acting cylinder with Quick Coupler socket (with accessory screw driver – for cushioning adjustment), Qty.-1

Single acting cylinder, Qty.-1

Swivel fitting assembly with Quick coupler plug, Qty.-1

Multi distributor fittings (for cascading circuit designing) Qty.-3

Diameter 4 mm, union "T" fittings.(One touch fittings) Qty.-4

Diameter 4 mm, union "Y" fittings.(One touch fittings) Qty.-4

Diameter 4 mm Plug. Qty.-6

Diameter 8 mm (OD) Polyurethane tube. 5 Mtrs

Diameter 4 mm (OD) Polyurethane tube. 10 Mtrs

Tube cutter, Qty.-1

3/2 idle return roller lever valve – Forwarding, Qty.-1

5/3 double external pilot operated valve, Qty.-1

Time Delay Valve, Qty.-1

Profile Table Top, Qty.-1

Fluid SIM 4.2 simulation software, single network licence, Qty.-1

Item No. 6: Computerized Four Stroke Single Cylinder Diesel Engine Test Rig

Quantity: 1

Specifications:

Type of engine: Water-cooled 4-stroke single cylinder diesel engine

Rating: 3.75kW (5 hp)

Dynamometer: Eddy current type

Data acquisition and display:

Through suitable data acquisition system and displayed digitally. (If any off-the-shelf DAS software is proposed, please specify supplier. Preferred: software from reputed suppliers such as National Instruments).

Measurement parameters:

Temperature:
Ambient, Cooling water inlet and outlet, Exhaust gas calorimeter inlet and outlet, any other for performance or safety purposes of the system.

Air consumption
Fuel consumption
Cooling water consumption/circulation

Torque

Brake load (as newton)

Pressure and crank angle (for P-θ plots)

Pressure and instantaneous volume (for P-V plots)

Speed

Exhaust/smoke parameters

Rate of heat release

Fuel injector pressure (Optional)

Specification of the data acquisition and display computer:
Intel I5 system (preferably HP Make) with 17" LCD Monitor, 500 GB HDD, 4GB RAM, WINDOWS 7 OS, Software for data acquisition and results analysis with graphical presentation (such as "ENGINESOFT").

Item No. 7: Oracle 10G/11G and Oracle IDS

(a) Oracle 10G/11G Standard Edition ONE

Quantity: 1

Specifications:

Oracle 10G Standard Edition One

Software update for 1 year (oracle 10G standard edition ONE Lic)

Product support for 1 year (oracle 10G standard edition ONE Lic)

(b) Oracle Internet Developer Suite

Quantity: 1

Specifications:

Internet Developer Suite

Software update for 1 year (Internet Developer Suite)

Product support for 1 year (Internet Developer Suite)

Item No. 8: Hardware Emulator and Flash Programmer

Quantity: 1

Specifications:

For all Teridian 71M65XX, 73S12XX, 71M640X and 71M8100 devices, Use only 2 pints for debugging, Chameleon Debugger for 8051 cores, Flash programmer, 2 H/W breakpoints, Unlimited SW breakpoints, 64KB Flash programming in about 3 Sec.

Item No. 9: Single Phase Power Analyser

Quantity: 2

Specifications:

Basic measurement: V,A,W,VA,VAr,PF,Apk, Vpk, Acf,

Frequency Integrator: Wh, Vah, VArh, Ah, average PF, Timer

Inrush: 0-200Apk, Displays peak current during switch on.

Ballast mode: For measurement on electronic lighting ballasts, Ballast CT

Voltage: Range 2V rms to 1000Vpk (8 ranges)

Accuracy: 0.1% rdg +/-0.1% range +/- 0.1% per KHz+/- 10mV.

Overload withstand: 60A rms for 1 sec.

Watt: Range 0 to 1999GWAccuracy 0.2% rdg +/- 0.2% Range +/-5mW +/-0.3% per KHz.

Apparent power: Range 0 to 1999GVA, Accuracy 0.2% rdg +/- 0.2% range +/-5mVA +/- 0.3% per KHz.

Reactive power: Range 0 to 1999GVAR, Accuracy 0.2% rdg +/- 0.2% range +/-5mVAR +/-0.3% per KHz.

Power factor: Range 0.0000 to +/- 1.0000, Accuracy +/-0.004 +/-0.2%rdg +/-0.2% per KHz

Frequency: Range 5Hz to 50Khz, Accuracy 0.2%

Harmonics: V,A,W Range 0 to 50th harmonics, Bandwidth Fundamental 5Hz to 50kHz,Harmonics 10Hz to 250Khz.

THD: Range 0% to 999%

Crest Factor: Range 1.000 to 19.9999

Integrator: Range 1 min to 99Hrs 59 Mins

Bandwidth: DC and 5Hz to 250khz

Safety and EMC:IEC 61010, complies with CE directive

Line power input: Dual Range 90-120V, 195-265V, 48-65Hz

Interfaces: IEEE 488, RS232 I/O and Parallel printer port, chart recorders and alarms

Dimensions: Suitable for rack mounting

Item No. 10: Li2 Robotics and Embedded System

Quantity: 1

Specifications:

SCARA Robot, Planetary Rover, Hexapod Robot, Image Processing, Robotics kit package for beginners, Embedded platform and gadgets.

Item No. 11: NI LabView Robotics Starter Kit

Quantity: 1

Specifications:

(a) ARM based Stepper Motor Robot Controller
NXP LPC2378 Microcontroller as ARM7
TDMI-S core at 72MHz.
On chip 512B bytes of flash EPROM for program memory.

(b) Stepper Motor Driver:

MOSFET based driver to actuate the motor.

Optical Isolator to isolate the signals from microcontroller and Motor.

Power Supply.

5 Axis table top Robot.

Windows /Linux based Software

Item No. 12: DSP Starter Kit (TMS320C6713B)

Quantity: 1

Specifications:

C6713 DSP Development Board with 1M Flash and 8MB SDRAM, DSP Programmer cum Emulator for TMS320C6713, High-quality   24-bit stereo codec, USB Cable for real time data acquisition.

Product Manual

Lab User Manual: Complete Curriculum Coverage with all its experiments.

Power Supply, AC Power Cord(s)

Item No. 13: Project Lab - Basic GSM Trainer Kit

a) **CRO**

Quantity: 2

Specifications:

100 MHz, 2 channel, Dual Time Base, 0.5s/div to 50ns/div Main, Time Base with Calibrated Steps, 50ms/div to 50ns/div, Delayed Time Base with Calibrated Steps, 2mV/div Sensitivity, Single Sweep, Sweep modes, sweep time and sweep expansion.

Auto Ranging Facility - Automatically Optimizes the Sweep Time
Trigger Lock Facility
Signal Delay Line
CRT Cursor Readout for Amplitude & Frequency Measurement

Digital Frequency measurement up to 100MHz
Operating systems: CH1,CH2,ADD,DUAL,(CHOP,ALT)
Inverting mode.
Maximum input voltage: 400 V (DC+AC Peaks) 1 KHz.
Trigger mode :Auto, Norm
Hold off : continuous change for 2 times.
Effective screen.

b) **Function Generator**

Quantity: 2

Specifications:

Frequency Range 0.1Hz to 3MHz (selectable)
Internal modulation input facility for, FM,ASK,PSK,QPSK,FSK.
Wide Sweep Range.
Digital Frequency
LCD Readout for frequency & mode
Digital set waveform and menu. Waveforms: Sine, Square, Triangle, DC

DC-Offset Adjustment
Trigger Output
Internal Sweep & External FM-Modulation
Square Wave Risetime Typ. 40ns
Distortion Factor < 0.5% (upto 100kHz)
Resolution: 0.1 Hz.

c) **GPS and GSM Development Kit**

Quantity: 1

Specifications:

GPS Receiver with integrated ARM controller and GSM transceiver.

Character LCD display to Display various parameters.

Graphics display.

GSM transceiver with GPS navigator.

MAP PLOTING SOFTWARE: GPS Navigator software should be useful for GPS and GSM based solutions. The GPS receiver can be directly connected to a PC in a moving vehicle and this software can run on PC to plot a route map.

Capable of receiving SMS format messages (GPS Data) from the remote GSM Transceiver.

Plot the messages on pc display as graphs ,maps etc.,

Route map and location is drawn in the remote PC screen. With development tools for ARM

Clear expansion for GSM/GPS based projects like:

Home security system using GSM

Home appliance control using GSM

Remote data monitoring through GSM.

Marks announcement system using GSM.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Item No. 14: VM (Virtual Machine) Ware / Cloud Stack Software

Quantity: 1

Specifications:

I. **OS Compatibility:** Windows XP/Win 7/Win 8/Win server 2003/ 2008/ OSX/Linux.

II. **ROBUST CLOUD MANAGEMENT SOFTWARE with following features:**

a) LDAP integration & role based access to cloud resources like users can only user what they are assigned to use by the admin. Cloud admins get full access to manage and assign resources like number of VM allowed, ip addresses – dynamic / static, memory, cpu ghz etc…

b) Clustered LVM Support and Support for Live migration of VM.

c) Should support for Over Provisioning of CPU, RAM & Disk for higher VM density.

d) Support for both hardware and software Firewalls / Load balancers / Routers etc…

e) Alert Management system so that any failure / reaching of thresholds should be alerted via email.

f) Effective usage metering and reporting

g) Support for H.A / cluster on Management Software / Database / Hypervisors / Storage etc….

h) Compatible with all leading Hypervisors like VS-phere, XEN, KVM, and Hyper V etc…

i) Support web based portal access – http / https with user authentication.

j) Console – text / GUI access to virtualized guest from outside (LAN / WAN).

k) Management of VM OS templates, ISO images and related resources.

l) Support for multiple storage levels and types.

The Solution Provider should provide proper documentation and screenshots videos for easy understanding of the system.

The Solution Provider should make a detailed document of the infrastructure setup with line by line commands given at each step so that we can manage it to a great extent ourselves.

The Solution Provider should train at least 1 or 2 people from our staff in the functioning of the full system.

The solution Provider should provide telephonic / email and remote support. If the problem cannot be resolved by either of these means then the solution provider has to give us On-site support free of cost during the warranty period.

Item No. 15: EMU8086 (Emulator)

Quantity: 1

Specifications: In Circuit Emulator for 8085/8086 microprocessor with learning aids.

Item No. 16: Networking

Specifications:

Particulars	Qty
Cat6 information outlet	60 nos.
Cat6 24 port jack panel	4 nos.
Dual face plate	30 nos.
3*3 back box	30 nos.
45*45 casing	20 nos.
2" Casing	200 mtrs.
16U Floor mount Rack with acc.	2 nos.
24 port 10/100/1000 mbps un-manage Giga Switch-D-Link	4 nos.
SAN-switch (24 port with 4 port 10GBps)	1 nos
10 Gbps patch chord	4 nos

DEPARTMENT OF BIOTECHNOLOGY

Item No. 17: Autoclave, Distillation Unit & Incubator

Quantity: 1

Specifications:

(a) Autoclave (Stainless Steel Single Drum – Vertical Model)

Dimensions: 12"X12", Stainless steel,18 gauge thickness, Top Cover 4mm thick, Silicon gasket, 2KW heater, pressure Gauge & pressure release valve.

(b) Distillation Unit (Single Glass)

Output-4Ltr/Hr, Conductivity – 3.0 – 4.0μS/Cm, pH – 5.5 – 6.0, Distillate Quality – Pyrogen free.

(c) Incubator

W X D X H = 450X45 X 450 Outer chamber made of MS with powder coated, inner chamber made of SS, temp range 5° C above ambient to 60° C ,fitted with PID controller ,air circulation fan and uniform temp through out chamber.

Item No. 18: Gel Electrophoresis Unit with Power Pack

Quantity: 1

Specifications:

Mini Protean Tetra cell, 10well, 1.0mm thickness, 2 GEL SYSTEM, includes 5 combs, 5 sets of glass plates, casting stand, 2 casting frames, Sample Loading Guide, electrode assembly, tank, lid with power cables, mini cell buffer dam.

PowerPac Basic Power Supply: 1,75,437.50

Output range (programmable): 10–300 V, fully adjustable in 1 V steps 4–400 mA, fully adjustable in 1 mA steps 75 W maximum

Type of output: Constant voltage, constant current with automatic crossover
 Output terminals: 4 pair recessed banana jacks floating in parallel
Timer: 1–999 min, fully adjustable
Ause/resume run function: YES
Display: LED
Operating conditions: 0–40°C; 0–95% humidity in the absence of condensation
Safety compliance: EN–61010

Item No. 19: Cooling Centrifuge

Quantity: 1

Specifications: Remi C 24 Refrigerated Centrifuge.

DEPARTMENT OF MANAGEMENT STUDIES

Item No. 20: Statgraphics Centurion XVI.I 32 bit English
(Statistical Software Package)

Quantity: 1

Specifications:

Statgraphics Centurion XVI.I with more than 160 statistical procedures including:

Regression and Analysis of Variance

Distribution Fitting

Statistical Process Control

Design of Experiment

Six Sigma

Reliability & life data analysis

Time Series analysis & forecasting

Exploratory Data Analysis

Multivariate Methods

Non Parametric Techniques

Offer to be made for both Software delivery via electronic download and delivered by Courier as a box item.

Offer to also include separately:

(a) Service for training.

(b) Support service for one year.

DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

Item No. 21: QualNet Simulator Software

Quantity: 1

Specifications:

QualNet version 5.0 (latest version is preferred), Graphical User Interface Based Company: By Scalable Network Technologies, Inc, California for Windows operating Systems (Windows NT® 4.0 / 2000® / XP ® Professional)

No. of Licenses: ONE

Sir MVIT Common Computing Facilities

Item No. 22: 42U Server Rack

Quantity: 1

Specifications:

The 42U Universal Server Rack is compatible with a wide variety of servers and rack mountable networking equipment. It should be able to handle even the heaviest loads - up to 3,000lbs. The **42U Rack** is completely customizable and is configured to be compatible with most server manufacturers. The **42U Rack** features a symmetrical frame which allows enclosures to be bayed side by side, one in front of another, in a corner, in U or T arrangements and all without the need for an expensive intermediate frame. The 16-fold frame design allows for the integrated channel above the joint on the horizontal frame section which prevents liquid from collecting on the gasket and from penetrating the door or side panel when opened. The frame system provides multiple internal surfaces and points for mounting equipment and accessories.

Following is the dimension;

DIMENSIONS		
	Overall	Usable
Height	81½"	42U (73½")
Width	24"	19" EIA
Depth	39"	36½"

42U Rack Frame/600X1000/Steel	Nos 1
Casters Set of 4/Tp3	Nos 1
Levelers	Nos 1
Side Panels/1000/42U	Nos 2
Front side Mesh Door /600/42U	Nos 1
Back Side Metal Door /600/42U	Nos 1
Zero U standard rack mount power distribution unit with 12 X C19,230 Volts AC, Inlet Plug (Not Installed ,Recommended IEC30932A 2P +E)-PDU Rating 32A	Nos 1
Vertical Cable Organizer/1U/Loop	Nos 2
Shelf/1000	Nos 3
Shelf/Key Board/19"Rty/1000	Nos 1
Mounting Hardware-CR (Pack of 20)	pkts 2
Fan Module/4Fan/Tower Mount/360CFM	Nos 1

Item No. 23: Intel Blade Server

Quantity: 1

Specifications:

CPU -   - Intel Xeon E5506 @ 2.13 GHz

Blade Module - Intel Manufactured Blade MFS5520VIR

Blade Chassis - Intel® Modular Server System MFSYS35

RAM   - 16GB DDR3 ECC Reg.

RAILKIT   - Tool less Rail kit for the above server

HDD   - 2TB HDD Enterprise Edition with 10000 RPM

HDD   - 1TB HDD Enterprise Edition with 10000 RPM

Item No. 24 & 25: Thin-Client (Hardware Configuration)

Quantity: 20 & 50 (to be quoted separately)

Specifications:

Thin client - SOCMB Thin client

Monitor – 18.5" TFT Monitor

Input—Keyboard and Mouse (Logitech)

Software Compatibility: OS: - Windows XP/Win 7/Win 8/Linux

Server OS: Windows Server 2003/2008

Item No. 26: UPS (10KVA)

Quantity: 1

Specifications:

10 KVA On-Line UPS working on 3 Phase input and 1 phase output along with SMF batteries to provide 30 minutes backup.

     Sd/-   **Sd/-**

Dr D.N. Shivappa   **Dr M.S.Indira**

Principal Coordinator   **Principal**