

CH. PERVAIZ ELAHI INSTITUTE OF CARDIOLOGY, MULTAN
MINUTES OF THE MEETING

A meeting of TEC "Technical Evaluation Committee" for purchase of Invasive Cardiac Monitor with BIS, Part-C (Qty-05) for Ch. Pervaiz Elahi Institute of Cardiology, Multan was held under the chairmanship of **Prof. Dr. Haider Zaman**, Professor of Cardiac Surgery & Chairman TEC, Dated: 29.01.2016 at 02:30 Pm in the office of the Director Technical of this institute.

The following members were present in the meeting:-

- | | |
|---|----------|
| 1. Prof. Dr. Haider Zaman, Prof. of Cardiac Surgery | Chairman |
| 2. Prof. Dr. Rana Altaf, Prof. of Anesthesia/End User | Member |
| 3. Dr. Tariq Abbas, Associate Prof. of Cardiology | Member |
| 4. Dr. Sohail Ahmad, Assist.Prof of Anaesthesia | Member |
| 5. Dr. Farhan Khan, Director Technical | Member |
| 6. Dr. Fayyaz Hashmi, Sr. Medical Officer | Member |
| 7. Dr. Muhammad Moeen, Sr. Registrar Cardiac Surgery | Member |
| 8. Dr. Sohail Saleemi, Sr. Registrar Cardiology | Member |
| 9. Engr. Muhammad Kaleem, Bio Medical Engineer | Member |

AGENDA: TECHNICAL EVALUATION FOR PURCHASE OF INVASIVE CARDIAC MONITOR WITH BIS, PART-C, QTY-05 FOR THE YEAR 2015.16

PROCEEDINGS:

Following 04Nos. firms participated in the tender:

1. M/S Vertex, Lahore
2. M/S Amtronic, Lahore
3. M/S Total Technologies
4. M/S Shirazi Trading, Lahore

All the tenders were evaluated with respect to floated specification and requirements.

1. M/S VERTEX MEDICAL, LAHORE

	PRE-REQUISITES	M/S Vertex
1	The quoted equipment must be manufactured in USA, EU or Japan only	USA / Germany
2	Specification (PART -C) QTY-05Nos.	
3	Model	Infinity Delta
4	Make	Dragerwerk
5	Country of Origin: USA / Europe / Japan	USA / Germany
6	Authorization	31.12.2016
7	Certification: (FDA (510K) / CE / JIS)	FDA/CE

8	Warranty: 5 Years Comprehensive with parts & spare including backup services	3 Years
9	OPERATING FEATURES & CHARACTERISTICS	
10	Screen size min 10" or more with touch screen colored	10.4" but not touch
11	ECG: (Cable Alligator Type) (OPTIONAL)	
12	Numeric heart rate	Numeric
13	Waveform: Six wave form minimum, real time freeze ECG trace	8 waveform
14	3, 6 and 12 lead real time monitoring	3/5 lead
15	Measuring range: 15 to 300bpm	15 to 300bpm
16	5 and 10 lead each ECG cable with electrodes	5/10 lead
17	Ability to detect Adult & Pediatric Heart rate range, QRS widths and amplitudes	TE Compliance
18	NONINVASIVE BLOOD PRESSURE (NIBP): (Adult, Paeds, Neonates Cuff) (OPTIONAL)	
19	Method: Oscillometric principle	Oscillometric
20	Numeric: Systolic, Diastolic and Mean Pressures	Systolic, DIA, MAP
21	Ability to measure Adult & Pediatric B.P	Adult /Paes/neonates
22	Rising Cuff / continuous pressure display	Rising pressure
23	Selectable auto inflate interval settings	Auto inflate
24	TEMPERATURE (Rectal, Nasal, Skin Probes) (OPTIONAL)	
25	Numeric. Temperature selectable in 'C / 'F	Both C/F
26	Channels: 2 channels or more	2 Channel
27	Ability to measure Adult & Pediatric temperature range	Adult /Paes/neonates
28	PULSE QXIMETRY: (Adults, Paeds, Neonates Probes) (OPTIONAL)	
29	Numeric: 0-100% Oxygen saturation measuring range	0 -100%
30	Masimo Technology/ Other patent technology with motion tolerance	Drager
31	Waveform: Plethysmograph pulse with pulse strength indication Sensor for Pediatrics & Adult Patients	Adult & Paeds
32	RESPIRATION: (OPTIONAL)	
33	Sweep speed: 6.25, 12.5mm/sec.	6.25/12.5 mm/sec
34	Breath rate display and Settable Apnea Alarm.	TE Compliance
35	RECORDER: (OPTIONAL)	
36	3 Channel Recorder for printing of ECG Waveforms	TE Compliance
37	ECG Paper Roll (05)	TE Compliance
38	INVASIVE BLOOD PRESSURE MODULE (OPTIONAL)	
39	4 Channel IBP Monitoring	TE Compliance
40	Numeric: Systolic, Diastolic and Mean Pressure	TE Compliance
41	Variable scale: Selectable	TE Compliance
42	5 IBP Complete kits	TE Compliance
43	ARRTHIEMIA ANALYSIS: (OPTIONAL)	
44	Arrhythmia analysis and ST analysis with minimum 10 Arrhythmia detection capability	TE Compliance
45	CARDIAC OUTPUT MODULE (OPTIONAL)	
46	Numeric Display	TE Compliance
47	Display of Cardiac Output	TE Compliance
48	Thermodilution Method	TE Compliance
49	One starter kit	TE Compliance
50	CAPNOGRAPHY (ETCO2) (OPTIONAL)	

51	For measuring of End Tidal CO2	TE Compliance
52	Capability of Main / side stream measurements for intubated and non intubated patients.	TE Compliance
53	Airway & nasal adapter 50 each adult and Paeds	TE Compliance
54	TRENDS:	
55	Trends for at least 48-96 hours with graphical and tabular representation for all parameters	TE Compliance
56	ALARMS:	
57	Selectable automatic Adult and Pediatric Mode alarm limits High and low (settable) on all parameters	TE Compliance
58	Visual and Audible indication of alarms	TE Compliance
59	BACKUP SUPPORT	
60	Built-in Rechargeable Battery with back up of at least 1-2 hours in case of AC power failure for full parameters.	TE Compliance
61	Wall mount or trolley original from manufacturer.	TE Compliance
62	The system must be complete with all sensors, probe, cable or any other accessories required for measuring all the above selectable parameters for adult & Pediatric applications. All the accessories must be supplied by the same manufacturer	TE Compliance
1	BIS MONITORING (STANDARD)	
2	Model	Infinity Delta
3	Make	Drager
4	Country of Origin: USA / Europe / Japan	USA / Germany
5	Authorization	31.12.2016
6	Certification: CE	FDA/CE
7	Warranty: 5 Years Comprehensive with parts & spare including backup services	3 Years
8	Non invasive bilateral brain function monitoring system designed for intraoperative or intensive care use.	Not Available
9	Monitored parameters:	
10	Four channels of high quality bilateral real time EEG.	TE Compliance
11	Simultaneous EEG of both sides of the brain .	TE Compliance
12	EEG-derived index (0-100) to represent patient state index.	TE Compliance
13	Density Spectral Array for identification of spectral edge, asymmetry of the left and right sides of the brain, burst suppression,	TE Compliance
14	EMG, suppression ratio and artifacts.	TE Compliance
15	Additional features:	
16	Color coded trend graph display of consciousness index with alarm limits.	TE Compliance
17	Display of EMG, suppression ratio and artifacts.	TE Compliance
18	Trend graph/Numeric display of EMG, suppression ratio and artifacts	TE Compliance
19	1 hour or more trend period on display	TE Compliance
20	72 or more hour trend record.	TE Compliance
21	Digital event marker with labeling	TE Compliance
22	Display:	
23	High-resolution (1280 x 800 pixels) or better color Active Matrix TFT LCD Touch Screen display.	10.4"

24	User configurable display through intuitive user interfaces and touch screen.	TE Compliance
25	Connectivity:	
26	Ethernet LAN connectivity with HIS or Serial Port	TE Compliance
27	USB trend & data upload	TE Compliance
28	Power:	
29	230V/240V AC 50Hz.	
30	Built in rechargeable battery for 30 minutes or more	1 hour
31	Accessories:	
32	Patient Cable	TE Compliance
33	Disposable sensors (50).	TE Compliance
	REMARKS	Technically Accepted

2. M/S AMTRONECH, LAHORE

	PRE-REQUISITES	M/S Amtronech
1	The quoted equipment must be manufactured in USA, EU or Japan	Mexico
2	Specification (PART -C) QTY-05Nos.	
3	Model	Masimo Root with SedLine Brain
4	Make	Masimo
5	Country of Origin: USA / Europe / Japan	USA / Mexico
6	Authorization	Yes
7	Certification: (FDA (510K) / CE / JIS)	No detail provided
8	Warranty: 5 Years Comprehensive with parts & spare including backup services	5 Years
9	OPERATING FEATURES & CHARACTERISTICS	
10	Screen size min 10" or more with touch screen colored	10.1" TFT
11	ECG: (Cable Alligator Type) (OPTIONAL)	
12	Numeric heart rate	Not Offered
13	Waveform: Six wave form minimum, real time freeze ECG trace	Not Offered
14	3, 6 and 12 lead real time monitoring	Not Offered
15	Measuring range: 15 to 300bpm	Not Offered
16	5 and 10 lead each ECG cable with electrodes	Not Offered
17	Ability to detect Adult & Pediatric Heart rate range, QRS widths and amplitudes	Not Offered
18	NONINVASIVE BLOOD PRESSURE (NIBP): (Adult, Paeds, Neonates Cuff) (OPTIONAL)	
19	Method: Oscillometric principle	Not Offered
20	Numeric: Systolic, Diastolic and Mean Pressures	Not Offered
21	Ability to measure Adult & Pediatric B.P	Not Offered
22	Rising Cuff / continuous pressure display	Not Offered
23	Selectable auto inflate interval settings	Not Offered
24	TEMPERATURE (Rectal, Nasal, Skin Probes) (OPTIONAL)	
25	Numeric. Temperature selectable in 'C / 'F	Not Offered
26	Channels: 2 channels or more	Not Offered
27	Ability to measure Adult & Pediatric temperature range	Not Offered
28	PULSE QXIMETRY: (Adults, Paeds, Neonates Probes) (OPTIONAL)	
29	Numeric: 0-100% Oxygen saturation measuring range	Not Offered

30	Masimo Technology/ Other patent technology with motion tolerance	Not Offered
31	Waveform: Plethysmograph pulse with pulse strength indication Sensor for Pediatrics & Adult Patients	Not Offered
32	RESPIRATION: (OPTIONAL)	
33	Sweep speed: 6.25, 12.5mm/sec.	Not Offered
34	Breath rate display and Settable Apnea Alarm.	Not Offered
35	RECORDER: (OPTIONAL)	
36	3 Channel Recorder for printing of ECG Waveforms	Not Offered
37	ECG Paper Roll (05)	Not Offered
38	INVASIVE BLOOD PRESSURE MODULE (OPTIONAL)	
39	4 Channel IBP Monitoring	Not Offered
40	Numeric: Systolic, Diastolic and Mean Pressure	Not Offered
41	Variable scale: Selectable	Not Offered
42	5 IBP Complete kits	Not Offered
43	ARRHYTHMIA ANALYSIS: (OPTIONAL)	
44	Arrhythmia analysis and ST analysis with minimum 10 Arrhythmia detection capability	Not Offered
45	CARDIAC OUTPUT MODULE (OPTIONAL)	
46	Numeric Display	Not Offered
47	Display of Cardiac Output	Not Offered
48	Thermodilution Method	Not Offered
49	One starter kit	Not Offered
50	CAPNOGRAPHY (ETCO2) (OPTIONAL)	
51	For measuring of End Tidal CO2	Not Offered
52	Capability of Main / side stream measurements for intubated and non intubated patients.	Not Offered
53	Airway & nasal adapter 50 each adult and Paeds	Not Offered
54	TRENDS:	
55	Trends for at least 48-96 hours with graphical and tabular representation for all parameters	Not Offered
56	ALARMS:	
57	Selectable automatic Adult and Pediatric Mode alarm limits High and low (settable) on all parameters	Not Offered
58	Visual and Audible indication of alarms	Not Offered
59	BACKUP SUPPORT	
60	Built-in Rechargeable Battery with back up of at least 1-2 hours in case of AC power failure for full parameters.	Not Offered
61	Wall mount or trolley original from manufacturer.	Not Offered
62	The system must be complete with all sensors, probe, cable or any other accessories required for measuring all the above selectable parameters for adult & Pediatric applications. All the accessories must be supplied by the same manufacturer	Not Offered
1	BIS MONITORING (STANDARD)	
2	Model	Masimo Root
3	Make	Masimo
4	Country of Origin: USA / Europe / Japan	USA / Mexico

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5	Authorization	Yes
6	Certification: CE	No detail provided
7	Warranty: 5 Years Comprehensive with parts & spare including backup services	5 Years
8	Non invasive bilateral brain function monitoring system designed for intraoperative or intensive care use.	TE Compliance
9	Monitored parameters:	
10	Four channels of high quality bilateral real time EEG.	
11	Simultaneous EEG of both sides of the brain .	TE Compliance
12	EEG-derived index (0-100) to represent patient state index.	TE Compliance
13	Density Spectral Array for identification of spectral edge, asymmetry of the left and right sides of the brain, burst suppression,	TE Compliance
14	EMG, suppression ratio and artifacts.	TE Compliance
15	Additional features:	
16	Color coded trend graph display of consciousness index with alarm limits.	TE Compliance
17	Display of EMG, suppression ratio and artifacts.	TE Compliance
18	Trend graph/Numeric display of EMG, suppression ratio and artifacts	TE Compliance
19	1 hour or more trend period on display	TE Compliance
20	72 or more hour trend record.	TE Compliance
21	Digital event marker with labeling	TE Compliance
22	Display:	
23	High-resolution (1280 x 800 pixels) or better color Active Matrix TFT LCD Touch Screen display.	10.1"
24	User configurable display through intuitive user interfaces and touch screen.	Touch
25	Connectivity:	
26	Ethernet LAN connectivity with HIS or Serial Port	TE Compliance
27	USB trend & data upload	TE Compliance
28	Power:	
29	230V/240V AC 50Hz.	
30	Built in rechargeable battery for 30 minutes or more	4 Hours
31	Accessories:	
32	Patient Cable	TE Compliance
33	Disposable sensors (50).	TE Compliance
	REMARKS	Technically Accepted

3. M/S TOTAL TECHNOLOGIES, LAHORE

	PRE-REQUISITES	M/S Total Technologies
1	The quoted equipment must be manufactured in USA, EU or Japan	Singapore
2	Specification (PART -C) QTY-05Nos.	
3	Model	BIS Vista
4	Make	Covidien
5	Country of Origin: USA / Europe / Japan	USA
6	Authorization	No detail provided
7	Certification: (FDA (510K) / CE / JIS)	FDA/CE

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8	Warranty: 5 Years Comprehensive with parts & spare including backup services	5 Years
9	OPERATING FEATURES & CHARACTERISTICS	
10	Screen size min 10" or more with touch screen colored	Not Mentioned
11	ECG: (Cable Alligator Type) (OPTIONAL)	
12	Numeric heart rate	Not Offered
13	Waveform: Six wave form minimum, real time freeze ECG trace	Not Offered
14	3, 6 and 12 lead real time monitoring	Not Offered
15	Measuring range: 15 to 300bpm	Not Offered
16	5 and 10 lead each ECG cable with electrodes	Not Offered
17	Ability to detect Adult & Pediatric Heart rate range, QRS widths and amplitudes	Not Offered
18	NONINVASIVE BLOOD PRESSURE (NIBP): (Adult, Paeds, Neonates Cuff) (OPTIONAL)	
19	Method: Oscillometric principle	Not Offered
20	Numeric: Systolic, Diastolic and Mean Pressures	Not Offered
21	Ability to measure Adult & Pediatric B.P	Not Offered
22	Rising Cuff / continuous pressure display	Not Offered
23	Selectable auto inflate interval settings	Not Offered
24	TEMPERATURE (Rectal, Nasal, Skin Probes) (OPTIONAL)	
25	Numeric. Temperature selectable in 'C / 'F	Not Offered
26	Channels: 2 channels or more	Not Offered
27	Ability to measure Adult & Pediatric temperature range	Not Offered
28	PULSE QXIMETRY: (Adults, Paeds, Neonates Probes) (OPTIONAL)	
29	Numeric: 0-100% Oxygen saturation measuring range	Not Offered
30	Masimo Technology/ Other patent technology with motion tolerance	Not Offered
31	Waveform: Plethysmograph pulse with pulse strength indication Sensor for Pediatrics & Adult Patients	Not Offered
32	RESPIRATION: (OPTIONAL)	
33	Sweep speed: 6.25, 12.5mm/sec.	Not Offered
34	Breath rate display and Settable Apnea Alarm.	Not Offered
35	RECORDER: (OPTIONAL)	
36	3 Channel Recorder for printing of ECG Waveforms	Not Offered
37	ECG Paper Roll (05)	Not Offered
38	INVASIVE BLOOD PRESSURE MODULE (OPTIONAL)	
39	4 Channel IBP Monitoring	Not Offered
40	Numeric: Systolic, Diastolic and Mean Pressure	Not Offered
41	Variable scale: Selectable	Not Offered
42	5 IBP Complete kits	Not Offered
43	ARRHYTHMIA ANALYSIS: (OPTIONAL)	
44	Arrhythmia analysis and ST analysis with minimum 10 Arrhythmia detection capability	Not Offered
45	CARDIAC OUTPUT MODULE (OPTIONAL)	
46	Numeric Display	Not Offered
47	Display of Cardiac Output	Not Offered
48	Thermodilution Method	Not Offered
49	One starter kit	Not Offered
50	CAPNOGRAPHY (ETCO2) (OPTIONAL)	

51	For measuring of End Tidal CO2	Not Offered
52	Capability of Main / side stream measurements for intubated and non intubated patients.	Not Offered
53	Airway & nasal adapter 50 each adult and Paeds	Not Offered
54	TRENDS:	
55	Trends for at least 48-96 hours with graphical and tabular representation for all parameters	Not Offered
56	ALARMS:	
57	Selectable automatic Adult and Pediatric Mode alarm limits High and low (settable) on all parameters	Not Offered
58	Visual and Audible indication of alarms	Not Offered
59	BACKUP SUPPORT	
60	Built-in Rechargeable Battery with back up of at least 1-2 hours in case of AC power failure for full parameters.	Not Offered
61	Wall mount or trolley original from manufacturer.	Not Offered
62	The system must be complete with all sensors, probe, cable or any other accessories required for measuring all the above selectable parameters for adult & Pediatric applications. All the accessories must be supplied by the same manufacturer	Not Offered
1	BIS MONITORING (STANDARD)	
2	Model	BIS Vista
3	Make	Covidien
4	Country of Origin: USA / Europe / Japan	USA
5	Authorization	No detail provided
6	Certification: CE	FDA/CE
-	Warranty: 5 Years Comprehensive with parts & spare including backup services	5 Years
8	Not in use for bilateral brain function monitoring system designed for intraoperative or intensive care use.	TE Compliance
9	Monitored parameters:	
10	Four channels of high quality bilateral real time EEG.	
11	Simultaneous EEG of both sides of the brain .	TE Compliance
12	EEG-derived index (0-100) to represent patient state index.	TE Compliance
13	Density Spectral Array for identification of spectral edge, asymmetry of the left and right sides of the brain, burst suppression,	TE Compliance
14	EMG, suppression ratio and artifacts.	TE Compliance
15	Additional features:	
16	Color coded trend graph display of consciousness index with alarm limits.	TE Compliance
17	Display of EMG, suppression ratio and artifacts.	TE Compliance
18	Trend graph/Numeric display of EMG, suppression ratio and artifacts	TE Compliance
19	1 hour or more trend period on display	TE Compliance
20	72 or more hour trend record.	TE Compliance
21	Digital event marker with labeling	TE Compliance
22	Display:	
23	High-resolution (1280 x 800 pixels) or better color Active Matrix TFT LCD Touch Screen display.	Not Mentioned

24	User configurable display through intuitive user interfaces and touch screen.	Touch
25	Connectivity:	
26	Ethernet LAN connectivity with HIS or Serial Port	TE Compliance
27	USB trend & data upload	TE Compliance
28	Power:	
29	230V/240V AC 50Hz.	
30	Built in rechargeable battery for 30 minutes or more	1 hours
31	Accessories:	
32	Patient Cable	TE Compliance
33	Disposable sensors (50).	TE Compliance
	REMARKS	Technically Accepted

4. M/S SHIRAZI TRADING, LAHORE

	PRE-REQUISITES	M/S Shirazi Trading
1	The quoted equipment must be manufactured in USA, EU or Japan	China
2	Specification (PART -C) QTY-05Nos.	
3	Model	Procure B-20
4	Make	GE
5	Country of Origin: USA / Europe / Japan	China
6	Authorization	31.12.2015
7	Certification: (FDA (510K) / CE / JIS)	FDA/CE
8	Warranty: 5 Years Comprehensive with parts & spare including backup services	5 Years
9	OPERATING FEATURES & CHARACTERISTICS	
10	Screen size min 10" or more with touch screen colored	10.4" but not touch
11	ECG: (Cable Alligator Type) (OPTIONAL)	
12	Numeric heart rate	Numeric
13	Waveform: Six wave form minimum, real time freeze ECG trace	6 waveform
14	3, 6 and 12 lead real time monitoring	3/5 lead
15	Measuring range: 15 to 300bpm	30 to 300bpm
16	5 and 10 lead each ECG cable with electrodes	3/5 lead
17	Ability to detect Adult & Pediatric Heart rate range, QRS widths and amplitudes	TE Compliance
18	NONINVASIVE BLOOD PRESSURE (NIBP): (Adult, Paeds, Neonates Cuff) (OPTIONAL)	
19	Method: Oscillometric principle	Oscillometric
20	Numeric: Systolic, Diastolic and Mean Pressures	Systolic, DIA, MAP
21	Ability to measure Adult & Pediatric B.P	Adult /Paes/neonates
22	Rising Cuff / continuous pressure display	Rising pressure
23	Selectable auto inflate interval settings	Auto inflate
24	TEMPERATURE (Rectal, Nasal, Skin Probes) (OPTIONAL)	
25	Numeric. Temperature selectable in 'C / 'F	Both C/F
26	Channels: 2 channels or more	2 Channel
27	Ability to measure Adult & Pediatric temperature range	Adult /Paes/neonates
28	PULSE QXIMETRY: (Adults, Paeds, Neonates Probes) (OPTIONAL)	
29	Numeric: 0-100% Oxygen saturation measuring range	0 -100%
30	Masimo Technology/ Other patent technology with motion tolerance	Masimo

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31	Waveform: Plethysmograph pulse with pulse strength indication Sensor for Pediatrics & Adult Patients	Adult & Paeds
32	RESPIRATION: (OPTIONAL)	
33	Sweep speed: 6.25, 12.5mm/sec.	6.25/12.5 mm/sec
34	Breath rate display and Settable Apnea Alarm.	TE Compliance
35	RECORDER: (OPTIONAL)	
36	3 Channel Recorder for printing of ECG Waveforms	TE Compliance
37	ECG Paper Roll (05)	TE Compliance
38	INVASIVE BLOOD PRESSURE MODULE (OPTIONAL)	
39	4 Channel IBP Monitoring	TE Compliance
40	Numeric: Systolic, Diastolic and Mean Pressure	TE Compliance
41	Variable scale: Selectable	TE Compliance
42	5 IBP Complete kits	TE Compliance
43	ARRTHIEMIA ANALYSIS: (OPTIONAL)	
44	Arrhythmia analysis and ST analysis' with minimum 10 Arrhythmia detection capability	TE Compliance
45	CARDIAC OUTPUT MODULE (OPTIONAL)	
46	Numeric Display	TE Compliance
47	Display of Cardiac Output	TE Compliance
48	Thermodilution Method	TE Compliance
49	One starter kit	TE Compliance
50	CAPNOGRAPHY (ETCO2) (OPTIONAL)	
51	For measuring of End Tidal CO2	TE Compliance
52	Capability of Main / side stream measurements for intubated and non intubated patients.	TE Compliance
53	Airway & nasal adapter 50 each adult and Paeds	TE Compliance
54	TRENDS:	
55	Trends for at least 48-96 hours with graphical and tabular representation for all parameters	TE Compliance
56	ALARMS:	
57	Selectable automatic Adult and Pediatric Mode alarm limits High and low (settable) on all parameters	TE Compliance
58	Visual and Audible indication of alarms	TE Compliance
59	BACKUP SUPPORT	
60	Built-in Rechargeable Battery with back up of at least 1-2 hours in case of AC power failure for full parameters.	TE Compliance
61	Wall mount or trolley original from manufacturer.	TE Compliance
62	The system must be complete with all sensors, probe, cable or any other accessories required for measuring all the above selectable parameters for adult & Pediatric applications. All the accessories must be supplied by the same manufacturer	TE Compliance
1	BIS MONITORING (STANDARD)	
2	Model	Procare B-20
3	Make	GE
4	Country of Origin: USA / Europe / Japan	China
5	Authorization	31.12.2015

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6	Certification: CE	FDA/CE
7	Warranty: 5 Years Comprehensive with parts & spare including backup services	5 Years
8	Non invasive bilateral brain function monitoring system designed for intraoperative or intensive care use.	Not Available
9	Monitored parameters:	
10	Four channels of high quality bilateral real time EEG.	TE Compliance
11	Simultaneous EEG of both sides of the brain .	Not Available
12	EEG-derived index (0-100) to represent patient state index.	TE Compliance
13	Density Spectral Array for identification of spectral edge, asymmetry of the left and right sides of the brain, burst suppression,	TE Compliance
14	EMG, suppression ratio and artifacts.	TE Compliance
15	Additional features:	
16	Color coded trend graph display of consciousness index with alarm limits.	TE Compliance
17	Display of EMG, suppression ratio and artifacts.	TE Compliance
18	Trend graph/Numeric display of EMG, suppression ratio and artifacts	TE Compliance
19	1 hour or more trend period on display	TE Compliance
20	72 or more hour trend record.	TE Compliance
21	Digital event marker with labeling	TE Compliance
22	Display:	
23	High-resolution (1280 x 800 pixels) or better color Active Matrix TFT LCD Touch Screen display.	10.4"
24	User configurable display through intuitive user interfaces and touch screen.	Not touch
25	Connectivity:	
26	Ethernet LAN connectivity with HIS or Serial Port	TE Compliance
27	USB trend & data upload	TE Compliance
28	Power:	
29	230V/240V AC 50Hz.	
30	Built in rechargeable battery for 30 minutes or more	1 hour
31	Accessories:	
32	Patient Cable	TE Compliance
33	Disposable sensors (50).	TE Compliance
	REMARKS	Technically Rejected

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CONCLUSION:

The committee scrutinized and discussed the technical offer of all above firms in detail and made the following decision unanimously.

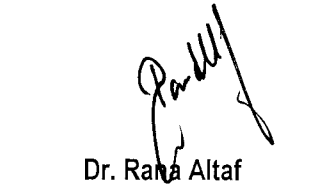
1. The offer of M/S Vertex Medical, M/S Amtronech, M/S Total Technologies is technically accepted while the offer of M/S Shirazi Trading, Lahore is technically rejected due to following reasons:-

M/S Shirazi Trading, Lahore

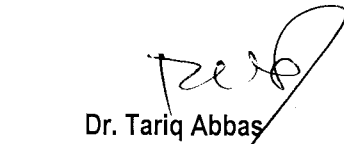
- The quoted equipment must be manufactured in USA, EU or Japan
- Country of Origin: China instead of USA / Europe / Japan
- Simultaneous EEG of both sides of the brain not available
- Touch screen not available



Dr. Haider Zaman
Prof. of Cardiac Surgery
CPEIC, Multan
(Chairman TEC)



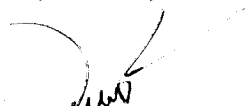
Dr. Rana Altaf
Prof. of Anesthesia/End user
CPEIC, Multan
(End-User)



Dr. Tariq Abbas
Associate. Prof. of Cardiology
CPEIC, Multan
(Member)

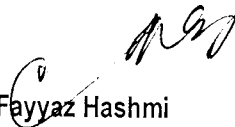


Dr. Sohail Ahmad
Assist. Prof. of Anaesthesia
CPEIC, Multan
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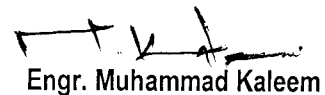
Dr. Fathian Khan
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