

S. No.	Equipment Name	Specification	Unit	Justification	Propriety article certificate	Remarks
1.	Motion Analysis System (Standing + Sitting Posture + Walking+Running)	<p>1. Marker based biomechanical system for Two Dimensional (2D) analysis of Gait analysis including Walking and Running activities, standing Posture and other sports activities.</p> <p>2. Biomechanical Motion analysis software with inbuilt modules for standing and sitting posture analysis, walking gait analysis & running gait analysis.</p> <p>3. It should also allow measurement of joint angles & other data from sports specific activities like jump, squat, golf, tennis etc</p> <p>4. It should be able to analyze the anterior, posterior, left & right lateral views of the subject and provide the following parameters:</p> <p>(a) Walking gait analysis: Rear foot eversion/inversion, lateral pelvic drop, Knee flexion/extension, hip flexion/extension, ankle plantar flexion/dorsiflexion, knee ab/adduction, stance phase % –swing phase %, step and stride length, speed. All data to be measured for both left and right extremities</p> <p>(b) Running gait analysis: Rear-foot eversion/inversion, lateral pelvic drop, Trunk side bending, crossover gait, knee flexion, leg inclination angle, knee toe-alignment, hip extension, ankle plantar</p>	1	Assessment and evaluation of 3 dimensional postural deviations. Helpful in predicting future musculoskeletal disorders.	Yes	<p>1. Atleast 5 research paper should be published on the specific instrument.</p> <p>2. The reliability and validity of the equipment should be provided.</p> <p>3. There should be scope of extension of validity for the equipment.</p>

		<p>flexion, net vertical oscillation of center of mass, knee ab/adduction. All data to be measured for both left and right extremities.</p> <p>(c) Standing Posture Analysis: Major postural deviations like rear-foot eversion /inversion, forward head posture, shoulder protraction, genu recurvatum, lateral head tilt, shoulder level, lateral pelvic drop, lateral trunk sway, Q angle.</p> <p>(d) Sitting Posture Analysis: Viewing angle, Viewing distance, Forward head angle, Elbow flexion/extension, Trunk flexion/extension, Knee flexion/extension, Hip knee alignment</p> <p>5. It should be able to generate organized reports with following features:</p> <p>(a) Data represented in tabular & photographic form</p> <p>(b) Inbuilt reference ranges for every parameter measured</p> <p>(c) All data lying outside reference ranges to be highlighted in bold</p> <p>(d) Automatic documentation of all observations and abnormal biomechanics in form of notes (with choice of Hindi or English language if needed)</p> <p>6. It should have an option to export all data to excel sheets</p> <p>7. It should have an inbuilt comparison feature that generates Pre-Post comparison reports to monitor changes in patient's posture and gait.</p> <p>8. It should have an inbuilt database feature for storing analysis data.</p> <p>9. Software should also use AI (Artificial intelligence) models to aid in marker digitisation.</p> <p>10. Software should have an option for Artificial intelligence based marker-less, automatic and dynamic measurement of joint angles during walking, running, posture and other activities.</p>				
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		<p>11. Motion Capture cameras supporting video capture in outdoor conditions as well as indoor conditions (floor, walkway & treadmill). Camera specifications:</p> <p>(a) Cameras- 02 in numbers with capture rate up to 60fps @1080p resolution</p> <p>(b) Cameras- 02 in numbers with capture rate up to 30fps @1080p and 4K resolution</p> <p>12. The system should have data transfer cables and connector cables for cameras along with Tripods for mounting of cameras.</p> <p>13. Marker Set (with marker placement guide) for Standing posture, Walking gait analysis and Running gait analysis with reusable markers or disposable markers (adequate in number for conducting at least 30 tests each)</p> <p>14. Compression Clothing for lower body & upper body should be provided.</p> <p>15. Quality Clearance for camera & cables: US FCC/ EU CE/ ISO BIS (either of the certifications)</p> <p>16. Should be safe and non-invasive, easy to use</p> <p>17. Carry case/ bag for storing and carrying all hardware equipment to be provided.</p> <p>18. In person training, virtual assistance & Technical support for System operation</p> <p>19. The biomechanical analysis software should have license validity along with all updates and bug fixes for a minimum period of 10 years.</p> <p>Posture and other sports activities.</p> <p>2. Biomechanical Motion analysis software with inbuilt modules for standing and sitting posture analysis, walking gait analysis & running gait analysis.</p> <p>3. It should also allow measurement of joint angles & other data from sports specific activities like jump, squat, golf, tennis etc</p>				
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Annexure-A

SPECIFICATIONS FOR MOTION ANALYSIS SYSTEM: