Skill related fitness	Physical related fitness	Fitness testing considerations	Methods of training - Physical related fitness
Agility:	Aerobic endurance:	Reliability:	intress
-Illinois agility run test	-Multi-stage fitness test (Bleep test 20 metre distance)	-Whether the results can be replicated/	Aerobic endurance:
-T Test.	-Yo-Yo test	trusted	-Continuous training
	-Harvard step test		-Fartlek training
Balance:	-12-minute Cooper run or swim.	Validity:	-Interval training
-Stork stand test		-Whether the test measures the correct	- Circuit training
-Y balance test.	Muscular endurance:	component of fitness.	
	-One-minute press-up		
Coordination:	-One-minute sit-up	Factors affecting reliability:	Flexibility:
-Alternate-Hand Wall-Toss test	-Timed plank test.	-Calibration of equipment	-Static active
-Stick flip coordination test.		<ul> <li>Motivation of the participant</li> </ul>	-Static passive
	Flexibility:	-Conditions of the testing environment	-Proprioceptive Neuromuscular Facilitation (PNF)
Power:	-Sit and reach test	-Experience of the person administering the	technique
-Vertical jump test	-Calf muscle flexibility test	test	
-Standing long/broad jump	-Shoulder flexibility test.	<ul> <li>Compliance with standardised test</li> </ul>	Muscular Strength:
-Margaria-Kalamen power test.		procedure.	-Fee weights
	Speed:	Practicality:	-Fixed resistance machines
Reaction time:	-30 metre sprint test	-cost	
-Ruler drop test	-30 metre flying sprint.	-Time taken to perform &set up the test	Speed:
-Online reaction time test (reaction test timer)		-Time taken to analyse data	-Acceleration sprints
	Muscular strength:	-Number of participants that can take part in	-Interval training
	-Grip dynamometer	the test at any time.	-Resistance drills
	-1 Rep Max.		
The effects of long-term fitness training	The effects of long-term fitness training	Methods of training - Skill related	Muscular Endurance:
			-Fee weights resistance machines
on the body systems	on the body systems	fitness	- Circuit training
Aerobic endurance training:	Muscular strength and power training:	Agility:	Principles of training (In SPOR VARR)
Aerobic endurance training: -Adaptations to the cardiovascular and respiratory	Muscular strength and power training: -Adaptations to the muscular and skeletal systems	Agility: -Speed Agility and Quickness training (SAQ) –	Principles of training (In SPOR VARR)
-Adaptations to the cardiovascular and respiratory	-Adaptations to the muscular and skeletal systems		
-Adaptations to the cardiovascular and respiratory systems	-Adaptations to the muscular and skeletal systems -Muscle hypertrophy	-Speed Agility and Quickness training (SAQ) –	Principles of training (In SPOR VARR) Additional principles of training -Individual needs
-Adaptations to the cardiovascular and respiratory systems -Cardiac hypertrophy	-Adaptations to the muscular and skeletal systems -Muscle hypertrophy -increased tendon and ligament strength	-Speed Agility and Quickness training (SAQ) –	Additional principles of training
-Adaptations to the cardiovascular and respiratory systems -Cardiac hypertrophy Decreased resting heart rate	-Adaptations to the muscular and skeletal systems -Muscle hypertrophy	-Speed Agility and Quickness training (SAQ) – drills	Additional principles of training -Individual needs -Specificity
-Adaptations to the cardiovascular and respiratory systems -Cardiac hypertrophy Decreased resting heart rate -Increased strength of respiratory muscles	-Adaptations to the muscular and skeletal systems -Muscle hypertrophy -increased tendon and ligament strength -Increased bone density.	-Speed Agility and Quickness training (SAQ) – drills Power:	Additional principles of training -Individual needs -Specificity -Progressive Overload
-Adaptations to the cardiovascular and respiratory systems -Cardiac hypertrophy Decreased resting heart rate	<ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Muscle hypertrophy</li> <li>-increased tendon and ligament strength</li> <li>-Increased bone density.</li> </ul> Speed training:	-Speed Agility and Quickness training (SAQ) – drills Power:	Additional principles of training -Individual needs -Specificity
-Adaptations to the cardiovascular and respiratory systems -Cardiac hypertrophy Decreased resting heart rate -Increased strength of respiratory muscles -Capillarisation around alveoli.	-Adaptations to the muscular and skeletal systems -Muscle hypertrophy -increased tendon and ligament strength -Increased bone density.	<ul> <li>-Speed Agility and Quickness training (SAQ) – drills</li> <li>Power: <ul> <li>-Plyometrics (lunging, bounding),</li> </ul> </li> <li>Balance: <ul> <li>-Use of specific training exercises that require</li> </ul> </li> </ul>	Additional principles of training -Individual needs -Specificity -Progressive Overload
-Adaptations to the cardiovascular and respiratory systems -Cardiac hypertrophy Decreased resting heart rate -Increased strength of respiratory muscles -Capillarisation around alveoli. Flexibility training:	<ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Muscle hypertrophy</li> <li>-increased tendon and ligament strength</li> <li>-Increased bone density.</li> </ul> Speed training: <ul> <li>-Adaptations to the muscular system</li> </ul>	-Speed Agility and Quickness training (SAQ) – drills Power: -Plyometrics (lunging, bounding), Balance:	Additional principles of training -Individual needs -Specificity -Progressive Overload -Reversibility
-Adaptations to the cardiovascular and respiratory systems -Cardiac hypertrophy Decreased resting heart rate -Increased strength of respiratory muscles -Capillarisation around alveoli. Flexibility training: -Adaptations to the muscular and skeletal systems	<ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Muscle hypertrophy</li> <li>-increased tendon and ligament strength</li> <li>-Increased bone density.</li> </ul> Speed training: <ul> <li>-Adaptations to the muscular system</li> <li>-Increased tolerance to lactic acid.</li> </ul>	<ul> <li>-Speed Agility and Quickness training (SAQ) – drills</li> <li>Power: <ul> <li>-Plyometrics (lunging, bounding),</li> </ul> </li> <li>Balance: <ul> <li>-Use of specific training exercises that require</li> </ul> </li> </ul>	Additional principles of training -Individual needs -Specificity -Progressive Overload -Reversibility -Variation -Adaptation
-Adaptations to the cardiovascular and respiratory systems -Cardiac hypertrophy Decreased resting heart rate -Increased strength of respiratory muscles -Capillarisation around alveoli. Flexibility training:	<ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Muscle hypertrophy</li> <li>-increased tendon and ligament strength</li> <li>-Increased bone density.</li> </ul> Speed training: <ul> <li>-Adaptations to the muscular system</li> </ul>	<ul> <li>-Speed Agility and Quickness training (SAQ) – drills</li> <li>Power: <ul> <li>-Plyometrics (lunging, bounding),</li> </ul> </li> <li>Balance: <ul> <li>Use of specific training exercises that require balancing on a reduced size base of</li> </ul> </li> </ul>	Additional principles of training -Individual needs -Specificity -Progressive Overload -Reversibility -Variation
<ul> <li>-Adaptations to the cardiovascular and respiratory systems</li> <li>-Cardiac hypertrophy</li> <li>Decreased resting heart rate</li> <li>-Increased strength of respiratory muscles</li> <li>-Capillarisation around alveoli.</li> </ul> <b>Flexibility training:</b> <ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Increased range of movement permitted at a joint</li> </ul>	<ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Muscle hypertrophy</li> <li>-increased tendon and ligament strength</li> <li>-Increased bone density.</li> </ul> Speed training: <ul> <li>-Adaptations to the muscular system</li> <li>-Increased tolerance to lactic acid.</li> </ul> Training intensity	<ul> <li>-Speed Agility and Quickness training (SAQ) – drills</li> <li>Power: <ul> <li>-Plyometrics (lunging, bounding),</li> </ul> </li> <li>Balance: <ul> <li>Use of specific training exercises that require balancing on a reduced size base of support.</li> </ul> </li> <li>Coordination:</li> </ul>	Additional principles of training -Individual needs -Specificity -Progressive Overload -Reversibility -Variation -Adaptation
-Adaptations to the cardiovascular and respiratory systems -Cardiac hypertrophy Decreased resting heart rate -Increased strength of respiratory muscles -Capillarisation around alveoli. Flexibility training: -Adaptations to the muscular and skeletal systems -Increased range of movement permitted at a joint -Increased flexibility of ligament and tendons	<ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Muscle hypertrophy</li> <li>-increased tendon and ligament strength</li> <li>-Increased bone density.</li> </ul> Speed training: <ul> <li>-Adaptations to the muscular system</li> <li>-Increased tolerance to lactic acid.</li> </ul> Training intensity <ul> <li>-Maximum heart rate 220 -Age</li> </ul>	<ul> <li>-Speed Agility and Quickness training (SAQ) – drills</li> <li>Power: <ul> <li>-Plyometrics (lunging, bounding),</li> </ul> </li> <li>Balance: <ul> <li>Use of specific training exercises that require balancing on a reduced size base of support.</li> </ul> </li> <li>Coordination: <ul> <li>Use of specific training exercises using two or</li> </ul> </li> </ul>	Additional principles of training -Individual needs -Specificity -Progressive Overload -Reversibility -Variation -Adaptation -Rest & Recovery
-Adaptations to the cardiovascular and respiratory systems -Cardiac hypertrophy Decreased resting heart rate -Increased strength of respiratory muscles -Capillarisation around alveoli. Flexibility training: -Adaptations to the muscular and skeletal systems -Increased range of movement permitted at a joint -Increased flexibility of ligament and tendons -Increased muscle length.	<ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Muscle hypertrophy</li> <li>-increased tendon and ligament strength</li> <li>-Increased bone density.</li> <li>Speed training:         <ul> <li>-Adaptations to the muscular system</li> <li>-Increased tolerance to lactic acid.</li> </ul> </li> <li>Training intensity         <ul> <li>-Maximum heart rate 220 -Age</li> <li>-Aerobic training zone 60-85% MHR</li> </ul> </li> </ul>	<ul> <li>-Speed Agility and Quickness training (SAQ) – drills</li> <li>Power: <ul> <li>-Plyometrics (lunging, bounding),</li> </ul> </li> <li>Balance: <ul> <li>Use of specific training exercises that require balancing on a reduced size base of support.</li> </ul> </li> <li>Coordination:</li> </ul>	Additional principles of training -Individual needs -Specificity -Progressive Overload -Reversibility -Variation -Adaptation -Rest & Recovery Basic principles of training
-Adaptations to the cardiovascular and respiratory systems -Cardiac hypertrophy Decreased resting heart rate -Increased strength of respiratory muscles -Capillarisation around alveoli. Flexibility training: -Adaptations to the muscular and skeletal systems -Increased range of movement permitted at a joint -Increased flexibility of ligament and tendons	<ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Muscle hypertrophy</li> <li>-increased tendon and ligament strength</li> <li>-Increased bone density.</li> </ul> Speed training: <ul> <li>-Adaptations to the muscular system</li> <li>-Increased tolerance to lactic acid.</li> </ul> Training intensity <ul> <li>-Maximum heart rate 220 -Age</li> </ul>	<ul> <li>-Speed Agility and Quickness training (SAQ) – drills</li> <li>Power: <ul> <li>-Plyometrics (lunging, bounding),</li> </ul> </li> <li>Balance: <ul> <li>Use of specific training exercises that require balancing on a reduced size base of support.</li> </ul> </li> <li>Coordination: <ul> <li>Use of specific training exercises using two or</li> </ul> </li> </ul>	Additional principles of training -Individual needs -Specificity -Progressive Overload -Reversibility -Variation -Adaptation -Rest & Recovery Basic principles of training -Frequency
<ul> <li>-Adaptations to the cardiovascular and respiratory systems</li> <li>-Cardiac hypertrophy</li> <li>Decreased resting heart rate</li> <li>-Increased strength of respiratory muscles</li> <li>-Capillarisation around alveoli.</li> </ul> Flexibility training: <ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Increased range of movement permitted at a joint</li> <li>-Increased flexibility of ligament and tendons</li> <li>-Increased muscle length.</li> </ul> Muscular endurance training:	<ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Muscle hypertrophy</li> <li>-increased tendon and ligament strength</li> <li>-Increased bone density.</li> </ul> Speed training: <ul> <li>-Adaptations to the muscular system</li> <li>-Increased tolerance to lactic acid. Training intensity <ul> <li>-Maximum heart rate 220 - Age</li> <li>-Aerobic training zone 60-85% MHR</li> <li>-Anaerobic training zone 85%-MHR</li> </ul></li></ul>	<ul> <li>-Speed Agility and Quickness training (SAQ) – drills</li> <li>Power: <ul> <li>-Plyometrics (lunging, bounding),</li> </ul> </li> <li>Balance: <ul> <li>Use of specific training exercises that require balancing on a reduced size base of support.</li> </ul> </li> <li>Coordination: <ul> <li>Use of specific training exercises using two or more body parts together.</li> </ul> </li> <li>Reaction time:</li> </ul>	Additional principles of training -Individual needs -Specificity -Progressive Overload -Reversibility -Variation -Adaptation -Rest & Recovery Basic principles of training -Frequency -Intensity
<ul> <li>-Adaptations to the cardiovascular and respiratory systems</li> <li>-Cardiac hypertrophy</li> <li>Decreased resting heart rate</li> <li>-Increased strength of respiratory muscles</li> <li>-Capillarisation around alveoli.</li> </ul> <b>Flexibility training:</b> <ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Increased range of movement permitted at a joint</li> <li>-Increased flexibility of ligament and tendons</li> <li>-Increased muscle length.</li> </ul> <b>Muscular endurance training:</b> <ul> <li>-Adaptations to the muscular system</li> </ul>	<ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Muscle hypertrophy</li> <li>-increased tendon and ligament strength</li> <li>-Increased bone density.</li> </ul> Speed training: <ul> <li>-Adaptations to the muscular system</li> <li>-Increased tolerance to lactic acid. Training intensity <ul> <li>-Maximum heart rate 220 - Age</li> <li>-Aerobic training zone 60-85% MHR</li> <li>-Anaerobic training zone 85%-MHR</li> </ul> Rate of perceived exertion</li></ul>	<ul> <li>-Speed Agility and Quickness training (SAQ) – drills</li> <li>Power: <ul> <li>-Plyometrics (lunging, bounding),</li> </ul> </li> <li>Balance: <ul> <li>-Use of specific training exercises that require balancing on a reduced size base of support.</li> </ul> </li> <li>Coordination: <ul> <li>-Use of specific training exercises using two or more body parts together.</li> </ul> </li> </ul>	Additional principles of training -Individual needs -Specificity -Progressive Overload -Reversibility -Variation -Adaptation -Rest & Recovery Basic principles of training -Frequency -Intensity -Time
<ul> <li>-Adaptations to the cardiovascular and respiratory systems</li> <li>-Cardiac hypertrophy</li> <li>Decreased resting heart rate</li> <li>-Increased strength of respiratory muscles</li> <li>-Capillarisation around alveoli.</li> </ul> <b>Flexibility training:</b> <ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Increased range of movement permitted at a joint</li> <li>-Increased flexibility of ligament and tendons</li> <li>-Increased muscle length.</li> </ul> <b>Muscular endurance training:</b> <ul> <li>-Adaptations to the muscular system</li> <li>-Capillarisation around muscle tissues</li> </ul>	<ul> <li>-Adaptations to the muscular and skeletal systems</li> <li>-Muscle hypertrophy</li> <li>-increased tendon and ligament strength</li> <li>-Increased bone density.</li> </ul> Speed training: <ul> <li>-Adaptations to the muscular system</li> <li>-Increased tolerance to lactic acid. Training intensity <ul> <li>-Maximum heart rate 220 - Age</li> <li>-Aerobic training zone 60-85% MHR</li> <li>-Anaerobic training zone 85%-MHR</li> </ul></li></ul>	<ul> <li>-Speed Agility and Quickness training (SAQ) – drills</li> <li>Power: <ul> <li>-Plyometrics (lunging, bounding),</li> </ul> </li> <li>Balance: <ul> <li>Use of specific training exercises that require balancing on a reduced size base of support.</li> </ul> </li> <li>Coordination: <ul> <li>Use of specific training exercises using two or more body parts together.</li> </ul> </li> <li>Reaction time:</li> </ul>	Additional principles of training -Individual needs -Specificity -Progressive Overload -Reversibility -Variation -Adaptation -Rest & Recovery Basic principles of training -Frequency -Intensity -Time