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MINISTRY OF DEFENCE
OFFICE OF THE DGAFMS/DG-3A

MANUAL ON MEDICAL EXAMINATION AND MEDICAL STANDARDS FOR UNDERGRADUATE ENTRIES INTO ARMED FORCES MEDICAL COLLEGE PUNE, COLLEGE OF NURSING, SSC ENTRY IN THE ARMED FORCES MEDICAL SERVICES AND ARMY DENTAL CORPS INCLUDING CIVILIAN POST GRADUATE AND SUPERSPECIALTY CANDIDATES JOINING AFMS TEACHING HOSPITALS/ AFMC

1. Pl ref Manual of Medical Examination and Medical Standards for Undergraduate entries into Armed Forces Medical College Pune, College of Nursing and SSC Officers joining the AFMS and Civilian Post Graduate and Superspeciality candidates joining AFMS teaching hospitals/ AFMC: Priority V candidates promulgated vide note No 41187/2(V)/DGAFMS/DG-3A dt 03 Nov 2021 and subsequent addendums to the same dt 11 May 2022 & 18 Oct 2022.

2. Over the past two and a half years policies w.r.t. medical stds have undergone several revisions, thereby necessitating revision of the AFMS entry standards in its entirety. Accordingly, the AFMS policy has been revised, duly incorporating all addendums, Common Medical Standards and relevant policies promulgated by the O/o DGAFMS.

3. Policy letters issued in this context by the O/o DGAFMS in the past are hereby superseded.

4. A copy of the manual is forwarded herewith as an enclosure to this note.

5. This has the approval of DGAFMS.

Sd /- x x x x
(S Ghosh)
Col
Col AFMS (Health)

Encl: - **As above**

AFMC, Pune

DGMS (Army)/5A : For info of all SMB, AMB & RMB Centres

DGMS (Navy)/Med-II

DGMS (Air)/Med-5 } For info of all AMB Centres

Internal:

DGAFMS/DG-1D

MANUAL
ON MEDICAL EXAMINATIONS AND MEDICAL STANDARDS FOR UNDERGRADUATE ENTRY INTO ARMED FORCES MEDICAL COLLEGE, COLLEGE OF NURSING, SSC ENTRY IN THE ARMED FORCES MEDICAL SERVICES AND ARMY DENTAL CORPS INCLUDING CIVILIAN POST GRADUATE ENTRY & SUPERSPECIALTY COURSES IN AFMS HOSPITALS/AFMC

VERSION II

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SECTION - 1

GENERAL CONSIDERATIONS AND PRINCIPLES OF MEDICAL EXAMINATIONS

GENERAL CONSIDERATIONS AND PRINCIPLES OF MEDICAL EXAMINATIONS

1. The Armed Forces Medical Services (AFMS) is one of the largest employers in the Armed Forces. All AFMS personnel regardless of occupational specialty, unit assignment, age or gender should have a basic level of general physical and medical fitness, when inducted into service. This basic level of fitness can then be used as a springboard to train personnel for further physically demanding occupational specialties or unit assignments and deployable combat readiness.

2. The AFMS selects doctors for commissioning as Medical Officers in the Army Medical Corps (AMC), dental surgeons for commissioning in Army Dental Corps (ADC) and nurses for joining the Military Nursing Services (MNS). Medical Cadets are selected for entry to the Armed Forces Medical College (AFMC). Nursing Cadets are selected for entry to the College of Nursing (CON) at AFMC as well as other colleges of Nursing run by the Army. Civilian doctors are selected for various post-graduate and superspecialty courses at AFMC and other AFMS teaching hospitals with the mandate of getting commissioned in the AFMS on completion of the course.

3. It is imperative on the part of every examining Medical Officer (MO) and Specialist to ensure selection of medically fit individuals into the Armed Forces. It must be borne in mind by all MOs and specialists that a candidate once selected as medically fit, if found unfit during trg at AFMS institutions stage due to a disability that could have been discovered during initial medical examination, causes considerable embarrassment to authorities and avoidable financial burden to State. In case of any doubt about any disease/ disability/ injury/ genetic disorder etc. noticed during entry, the benefit of doubt will be given to the State.

4. The aim of this manual is to provide guidelines to MOs, Specialist Officers, and Medical Boards involved in medical examination of candidates at Armed Forces Medical establishments as regards their medical fitness standards based on the criteria laid down in subsequent pages. The following aspects are emphasized:

(a) The guidelines enumerated in this manual are meant to be applied in conjunction with the standard methods of clinical examination.

(b) These guidelines are not exhaustive and any deformity/ disease/ injury/ impairment or any abnormality in function of any part of the body/system may be a cause for rejection even if not mentioned here.

(c) Fitness of a candidate for commissioning or entry to teaching establishments of the AFMS will be determined by duly constituted Medical Boards.

5. To be deemed ‘Medically Fit’ for these courses, a candidate should be: -

(a) Free of contagious diseases that might endanger the health of self and other personnel.

(b) Free of medical conditions or physical limitations that would entail excessive absence from duty for treatment and hospitalization.

(c) Capable of undergoing highly demanding training activities.

(d) Adaptable to military environment without the necessity of geographical limitations and capable of performing military tasks without access to specialized

medical care. He/ she should be able to serve in any climate and terrain under austere conditions within the country as well as abroad.

6. **Applicability.** These medical standards will be applicable to Medical, Dental and Nursing candidates selected for commissioning in the AFMS; Medical Cadets and Nursing Cadets selected for entry to AFMC and other Colleges/ Schools of Nursing in the AFMS and to all Civilian candidates who join Post Graduation and Super Specialty courses at AFMC / other AFMS Teaching Institutions/ Hospitals.

7. Evaluation for medical fitness in respect of all candidates for commissioning into the AFMS as well as entry to AFMS teaching establishments will be conducted by duly constituted Medical Boards {designated as 'Special Medical Boards (SMB)} and recorded on AFMSF-2.

(a) MOs will ensure that the Medical Examination Form (AFMSF-2) is correctly filled by the candidate, required declarations are given, relevant investigations are carried out and results obtained before the candidates are referred to the concerned Specialists. The examining MO is responsible for recording concisely and clearly the identification marks in the space allotted for the purpose in AFMSF-2 to facilitate candidate's future identification. The presence of a lady attendant will be ensured while examining a female candidate.

(b) Specialist Officers from Medicine, Surgery, Eye, ENT, Dental, and Gynecology (in case of female candidates) will record their findings and comment on fitness at defined columns/ paras of AFMSF-2.

(c) The President of the Medical Board will clearly mark FIT or UNFIT as the findings of the board.

8. The following investigations will be carried out for all candidates as part of the Medical Examination:

Mandatory investigation to be carried out at entry medicals
Complete Haemogram
Blood Sugar Fasting & HbA1C
Liver Function Test
Renal Function Test
Lipid Profile
Urine RE & ME
Resting ECG
USG Abdomen& Pelvis
X- Ray Chest PA view
X- Ray LS Spine AP & Lateral view

9. Specialists will endorse detailed justification for declaring a candidate unfit. The President of the Board will inform unfit candidates the reasons for his/ her unfitness. Candidates will be informed about the appeal process.

10. Candidates found UNFIT may appeal against the findings of the Special Medical Board on payment of requisite fees.

11. **Medical Examination at the time of Admission to AFMC**. Initial medical examination /SMB for candidates joining as Medical Cadets to AFMC, will be carried out at the time of reporting for interview for admission to the MBBS course in AFMC.

(a) SMB proceedings will be recorded in AFMSF-2 in triplicate. The composition of the Board will be as follows: -

Presiding Officer	:	01 x Col or equivalent from the faculty at AFMC
Members	:	01 x Med Spl
	:	01 x Surg Spl

(b) The specialist endorsing the opinion will not be a part of the Medical Board. The approving authority for SMB will be the Dean & Dy Comdt, AFMC. Candidates declared medically unfit by the SMB will be provided an opportunity to appeal against the findings of the Medical Board, by means of an Appeal Medical Board (AMB) if they desire, on deposit of Rs 40 as MRO.

(c) Candidates declared Unfit during SMB will report for the AMB within 24 hours. Such candidates will invariably be examined by Senior Advisor in the concerned specialty. All suitable investigations will be carried out to assess the fitness status. This examination will be carried out on a fresh AFMSF-2 (in triplicate). In case a specialist finds another abnormality related to his/her own specialty, which is not mentioned in the SMB, he will mention the same and give opinion for the same too in AFMSF-2. In case while examining the candidate, the specialist finds another abnormality that is not related to his/her own specialty which is not mentioned in SMB, then he/she will mention the same on a clinical case sheet and refer the candidate to the concerned specialist for further necessary action. The approving authority of such AMBs will be Dir & Commandant, AFMC. The composition of AMB will be as follows: -

(i) HoD, Dept of Surg
(ii) HoD, Dept of Med
(iii) HoD, Dept of Radiodiagnosis & Imaging
(The senior most will be the Presiding Officer)

There is no option for a Review Medical Board (RMB) in respect of candidates joining AFMC as Medical Cadets.

12. **Candidates joining BSc Nursing**. SMB of BSc Nursing candidates will be conducted at Base Hospital Delhi Cantt. Approving Authority for SMB will be Deputy Commandant Base Hospital Delhi Cantt. All candidates declared Unfit during SMB can appeal against the findings of the Medical Board on payment of requisite fees and report within 24 hours for Appeal Medical Board at Army Hospital (R&R). Deputy Commandant, Army Hospital (R&R), Delhi Cantt will be the Approving Authority for AMB. Board Members for both SMB and AMB will be at the discretion of Commandant BHDC and AH (R&R). However, it will be ensured that no Board Member is below the rank of Lt Col/ equivalent. There is no option for holding Review Medical Boards (RMB) for candidates joining BSc Nursing as Nursing Cadets.

13. **Candidates joining as AMC (SSC) & MNS(SSC)**.

(a) Candidates joining as SSC (AMC) entry will undergo SMB at AH(R&R) and AFC. Comdt AFC will be the approving auth for SMB carried out at AFC. Those joining MNS (SSC) will undergo SMB at Base Hospital Delhi Cantt. Candidates (Both AMC & MNS) declared Unfit at SMB will undergo AMB at the respective AMB centers within a period of 42 days from the date of SMB. All suitable investigations will be carried out to assess the fitness status. Such candidates will invariably be examined by Senior Advisor in the concerned specialty. Where Senior Adviser is not available, they will be examined by a Classified Specialist in the discipline and the findings countersigned by Senior Adviser in allied specialty. This examination will be carried out on a fresh AFMSF-2 (in triplicate). In case a specialist finds another abnormality related to his own specialty, which is not mentioned in the SMB, he will mention the same and give opinion for the same too in AFMSF-2. In case while examining the candidate, the specialist finds another abnormality that is not related to his/her own specialty which is not mentioned in SMB, then he/she will mention the same on a clinical case sheet and refer the candidate to the concerned specialist for further necessary action. The approving authority of such AMBs will be Commandant of the Hospital/ AMB Centre. When such candidates are declared unfit by AMB and approved by the competent auth, the result will be communicated to him/her by the Presiding Offr of AMB. The candidate can seek a Review Medical Board (RMB) against the decison of AMB within 24 hours of the same being communicated. RMB will be granted at the discretion of DGAFMS, based on merit of individual cases and unlike AMB, should not be construed as a matter of right by the candidate. RMB will be conducted at AH(R&R) and at AFMC, Pune. Validity of SMB will be for a period of 180 days only.

(b) Candidates who have been declared fit at SMB/AMB/RMB will not undergo another SMB on AFMS-2 before the validity period of 180 days. Candidates reporting to hospitals for commissioning within 180 days of SMB will undergo a **Medical Inspection** by the Staff Surgeon/ MOI/C MI Room for any overt/ visible disability. Only those candidates with overt/ visible disabilities will be referred to the concerned specialist for detailed investigation/ evaluation. Specialist opinion will be rendered on **AFMSF-3A** and Fit/ Unfit status would be endorsed by the Med Bd at the concerned hospital and approved by Comdt/CO hospital.

(c) Candidates with no overt/ visible disability will be declared Fit and endorsement made in the **Health Record Card.** Lady candidates will be subject to an ultrasound pelvis only for ruling out pregnancy.

(d) In all cases where the specialist feels that the detected disability is likely to resolve within a period, not exceeding 180 days from the date of SMB, candidates will be declared **Temporary Unfit** and directed to report to the hospital within a time frame as deemed appropriate by the specialist**.** The period of remaining Unfit shall in no way exceed 180 days from the date of SMB. Candidates in whom the said disability or impairment has resolved on follow up shall be declared Fit for joining and commissioned.

(e) Candidates in whom the disability is not likely to resolve within 180 days of SMB or who are still found to be suffering from the detected disability after the initial period of follow up, shall be declared **Temporarily Rejected** and endorsement made to the effect on **AFMSF-3A,** which will be fwd to DGMS (Army)/ DGMS-4B (For MNS candidates) and DGAFMS/DG-1A (For AMC SSC candidates). These candidates can seek an Appeal Medical Board at a centre of their choice within 42 days of being declared **Temporarily Rejected**, with a further scope of RMB.

(f) Candidates who report to concerned hospitals after a period of 180 days of SMB, would be subject to a **fresh SMB on AFMSF-2** with the provision of AMB and RMB.

14. **Medical Examination for Civilian Candidates having Service Liability selected for undergoing Post Graduation and Super Specialty courses at AFMS Teaching Institutions/ Hospitals.** Extreme diligence will be exercised in carrying out medical examination of these candidates. The MOs/ Specialists will be fully conversant with the rules, regulations and policy letters on the conduct of such examination. Initial Medical Examination for civilian post graduate candidates will be carried out at the respective institutions where such candidates are joining. The institution will maintain records and fwd one copy of the same to DGAFMS/DG-1D. Initial Medical Examination will be carried out on AFMSF-2. It is preferable that junior specialists and basic specialists (Med, Surg, ENT, Ophth and Gynae) perform the Initial Medical Examination. Appeal against the Initial Medical Examination will be preferred within 24 hrs of being granted Temporary Rejection and candidates examined by Sr Adv/ Super Specialist for the purpose of undergoing Appeal Medical Board. For civilian candidates joining in superspecialty courses at AHRR, Initial Medical Examination will be carried out at BHDC and AMB at AHRR. For civilian candidates joining superspecialty courses at AFMC, Initial Medical Examination will be carried out at CH(SC) and AMB carried out at AFMC. There is no provision for RMB for these categories of candidates.

SECTION – 2

ANTHROPOMETRIC STANDARDS

General Considerations

15. Armed Forces personnel are required to conform to minimum height requirements based on standards laid down by administrative authorities. Standards of weight for height are, however, specified based on medical considerations.

Methods of Examination

16. Three basic measurements are required to be carried out for all candidates for commission into the Armed Forces Medical Services or for entry into AFMS training establishments. These are height, weight, and chest circumference. In certain instances, two more measurements, namely waist circumference and hip circumference, may be required to be carried out for further assessment. These measurements will be required to be taken only for conditions specified in para 18 below. The method of recording these measurements is given below:

(a) **Height.** The measurement of height requires a vertical board with an attached metric rule and a horizontal headboard that can be brought into contact with the uppermost point of the head. The individual to be measured should be bare foot and wearing little clothing so that the positioning of the body can be seen. He or she should stand on a flat surface, with weight distributed evenly on both feet, knees straight, heels together, and the head positioned so that the line of vision is perpendicular to the body. The arms hang freely by the side, and the head, back, buttocks, and heels are in contact with the vertical board. The individual is asked to inhale deeply, and the body should maintain a fully erect position. The movable headboard is brought onto the topmost point on the head with sufficient pressure to compress the hair. The height is recorded to the nearest cm.

(b) **Weight.** The individual must stand still on the center of the weighing scale with the body weight evenly distributed between both feet, wearing only briefs or underwear, or a light smock over underwear. Weight is to be recorded to the nearest Kg. As far as possible electronic weighing scales should be used for medical boards and zero should be checked before the measurement.

(c) **Chest Circumference.** The chest should be bare. The arms are abducted slightly to permit the passage of the tape around the chest. When the tape is snugly in place the arms are lowered to their natural position at the sides of the trunk. Chest circumference is measured at the level of the fourth costosternal joints counting the ribs from above. The measurement is made in the horizontal plane at the end of normal expiration and again at full inspiration. The difference between the two measurements is to be recorded to the nearest 0.1 cm.

(d) **Abdominal Circumference.** The subject stands comfortably with his weight evenly distributed on both feet and being about 25-30cms apart. The measurement is taken midway between the inferior margin of the last rib and the crest of the ileum, in a horizontal plane. Each landmark should be palpated and marked, and the midpoint determined with a tape measure and marked. The observer sits by the side of the subject and fits the tape snugly but not so tightly as to compress underlying soft tissues. The circumference is measured to the nearest 0.1 cms at the end of normal expiration.

(e) **Hip (Buttocks) Circumference.** Wearing underwear, or a light smock over underwear, the subject stands erect with the arms at the sides and feet together. The measurer sits at the side of the subject so that the maximum level of the diameter of the buttocks can be seen and places the tape measure around the buttocks in a horizontal plane. The tape is snug against the skin but does not compress the soft tissues. The measurement is recorded to the nearest 0.1cms.

Height Standards

17. **Male cadets.** The minimum height required for entry into the AFMS for male cadets is 157 cm. Candidates from Hill and Northeastern States will be accepted with a minimum height of 152 cm. An allowance for growth of 02 cm will be made for candidates below 18 yrs at the time of examination.

18. **Female Cadets**. The minimum height required for entry into the Armed Forces for female cadets is 152 cm. Candidates from Hill and Northeastern States will be accepted with a minimum height of 148 cm. An allowance for growth of 02 cm will be made for candidates below 18 yrs at the time of examination.

Weight Standards

19. Weight for height charts given at Appendix ‘A’ for males and Appendix ‘B’ for females will be the standards for all categories of entries. The charts specify the minimum acceptable weight that candidates of a particular height must have. Weight below the minimum specified will not be acceptable in any case. The maximum acceptable weight for height has been specified in three age categories. Weights higher than the acceptable limit will be acceptable only in exceptional circumstances like in the case of candidates with documented evidence of bodybuilding, wrestling, and boxing. In such cases the following criteria will have to be met:

(a) Body Mass Index should be below 27.

(b) Waist Hip ratio should be below 0.9 for males and 0.8 for females.

(c) Waist Circumference should be less than 94 cm for males and 89cms for females.

(d) All biochemical metabolic parameters should be within normal limits.

Chest Circumference

20. Minimum chest circumference should be 77 cm. Chest expansion should be 05 cm or more for all categories of candidates.

Appendix 'A'
(Refers to para 15)

WEIGHT FOR HEIGHT CHART: MALES

Height	Minimum Weight	Maximum Weight (Kg)		
(cm)	(kg)	Age below 20 Yrs	Age 20 to 25 Yrs	Age above 25 Yrs
150	40	52	54	56
151	40	52	55	57
152	40	53	55	58
153	40	54	56	59
154	40	55	57	59
155	41	55	58	60
156	41	56	58	61
157	42	57	59	62
158	42	57	60	62
159	43	58	61	63
160	44	59	61	64
161	44	60	62	65
162	45	60	63	66
163	45	61	64	66
164	46	62	65	67
165	46	63	65	68
166	47	63	66	69
167	47	64	67	70
168	48	65	68	71
169	49	66	69	71
170	49	66	69	72
171	50	67	70	73
172	50	68	71	74
173	51	69	72	75
174	51	70	73	76

175	52	70	74	77
176	53	71	74	77
177	53	72	75	78
178	54	73	76	79
179	54	74	77	80
180	55	75	78	81
181	56	75	79	82
182	56	76	79	83
183	57	77	80	84
184	58	78	81	85
185	58	79	82	86
186	59	80	83	86
187	59	80	84	87
188	60	81	85	88
189	61	82	86	89
190	61	83	87	90
191	62	84	88	91
192	63	85	88	92
193	63	86	89	93
194	64	87	90	94
195	65	87	91	95
196	65	88	92	96
197	66	89	93	97
198	67	90	94	98
199	67	91	95	99
200	68	92	96	100

Appendix 'B'
(Refer Para 15)

WEIGHT FOR HEIGHT CHART: FEMALES

Height	Minimum Weight	Maximum Weight (Kg)		
(cm)	(kg)	Age below 20 Yrs	Age 20 to 25 Yrs	Age above 25 Yrs
145	37	46	48	50
146	37	47	49	51
147	37	48	50	52
148	37	48	50	53
149	37	49	51	53
150	37	50	52	54
151	37	50	52	55
152	37	51	53	55
153	37	51	54	56
154	38	52	55	57
155	38	53	55	58
156	39	54	56	58
157	39	54	57	59
158	40	55	57	60
159	40	56	58	61
160	41	56	59	61
161	41	57	60	62
162	42	58	60	63
163	43	58	61	64
164	43	59	62	65
165	44	60	63	65
166	44	61	63	66
167	45	61	64	67
168	45	62	65	68

169	46	63	66	69
170	46	64	66	69
171	47	64	67	70
172	47	65	68	71
173	48	66	69	72
174	48	67	70	73
175	49	67	70	74
176	50	68	71	74
177	50	69	72	75
178	51	70	73	76
179	51	70	74	77
180	52	71	75	78
181	52	72	75	79
182	53	73	76	79
183	54	74	77	80
184	54	74	78	81
185	55	75	79	82
186	55	76	80	83
187	56	77	80	84
188	57	78	81	85
189	57	79	82	86
190	58	79	83	87
191	58	80	84	88
192	59	81	85	88
193	60	82	86	89
194	60	83	87	90
195	61	84	87	91

SECTION – 3

DETAILED METHODOLOGY OF EXAMINATION FOR SPECIALISTS

MEDICINE AND ALLIED

21. **History.** A detailed history is to be elicited as per declaration form in AFMSF-2 History of illness not covered in the questionnaire may be elicited if examination findings indicate presence of a condition.

22. **General Physical Examination.** A diligent general physical and systemic examination will be carried out for all candidates by the MO/ Specialist.

(a) Record temperature, pulse and blood pressure (details of examination of pulse and blood pressure are covered under cardiovascular examination).

(b) Examine conjunctiva for pallor and icterus.

(c) Study the appearance of the face and distribution of facial hair.

(d) Examine lymph nodes in all the groups (cervical, axillary, inguinal, submandibular, occipital, epitrochlear etc.) and look for size, consistency, matting and overlying skin.

(e) The candidate should be asked to protrude his/her tongue and examined for any growth, discoloration, tremors or cyanosis.

(f) Lips should be examined for fissures and angular stomatitis.

(g) Examine oral cavity for colour of mucosa, condition of gums and teeth.

(h) The nails will be examined for any clubbing, infection, haemorrhage and abnormal colour changes.

(j) Inspect and palpate the thyroid gland. Look for enlargement (Goitre), consistency/nodularity and movement with deglutition.

(k) Skin will be examined for presence of any chronic skin disorders, features of leprosy or sexually transmitted infections.

(l) Look for presence of peripheral edema.

23. **Cardiovascular System**

(a) **Pulse**. Rate, rhythm, volume, regularity of the pulse and condition of the arterial wall will be assessed. Thickening and hardening of the arteries are noted by rolling the brachial artery under the examiner's fingers. The pulsation of both the radial and femoral arteries should always be compared and difference, if any, recorded. The pulse should be counted for one full minute. In addition, pulsation of carotid, popliteal, posterior tibial and dorsalis pedis arteries on both sides should be palpated and difference, if any, should be noted. For persistent tachycardia, the candidate's pulse rate should be checked twice. Pulse should be checked second time after a rest period of five minutes and both measurements should be endorsed in AFMSF-2.

(b) **Examination of Blood Pressure (BP)**. The individual should be sitting or lying comfortably at the time of recording of BP. Recording should be done after allowing the individual to relax. If first recording is abnormal two readings atleast 5 minutes apart should be taken and the lower of the two be recorded.

(c) **Examination of Heart**. Examine the precordium along classical lines with special emphasis on detecting deformities, pulsations abnormal heart sounds, murmurs and added sounds.

24. **Respiratory System.**

(a) The position of the trachea and apex beat should be determined. The candidate will be asked to take deep breaths to determine symmetry of thoracic movements. Further clinical examination on classical lines namely, inspection, palpation, percussion and auscultation, will be carried out. A careful clinical auscultation for crackles in all regions of the chest including post-tussive auscultation must be done.

(b) All candidates will be subjected to a radiograph of the chest (PA view).

25. **Gastrointestinal System**

(a) Examine the abdomen on classical lines with emphasis to detect scars, organomegaly, lumps or free fluid.

(b) **USG Abdomen and Pelvis**. It will be carried out for all candidates during the Medical Examination prior to entry. Disposal of cases with incidental ultrasonographic findings like fatty liver, cysts, hemangiomas, septate gallbladder etc. will be based on existing guidelines.

26. **Endocrine System**. Examine the candidate for findings suggestive of endocrine disorder (macroglossia, acromegaly, striae over abdomen, shoulders, chest and thigh, proximal muscle weakness, eye signs suggestive of thyroid disorder, pretibial myxedema, hyperpigmentation of skin or oral mucosa) and for features suggestive of hypogonadism.

27. **Hematopoietic System.** Hemoglobin estimation, total and differential leucocyte count, platelet counts are to be routinely performed on an automated hematology cell counter.

28. **Dermatological System.**

(a) **Examination**. Skin will be carefully examined in good daylight after removing all clothes to exclude any skin disease, features of leprosy or sexually transmitted disease.

(b) Skin will be examined for dryness, excessive sweating, elasticity, abnormal pigmentation, extensive erythema, purpura, keloids, bullae, pustules, nodules, ulcers, sinuses, large naevi and infections. Special care will be taken to look for warts, hesitation cuts, areas of depigmentation or hypo pigmentation, claw hand, foot drop or facial palsy.

29. **Central Nervous System Examination**

(a) **Mental Status Examination.** The candidate will be assessed by clinical examination consisting of observation and brief mental state examination, which will be carried out by a Medical Specialist who will especially evaluate for signs and symptoms enumerated below. Any substantial doubt about the presence of psychiatric illness shall be grounds for rejection. Appeal in case of rejection will be reviewed by Psychiatrist after exclusion of medical/ other disorder, if any. In case of marks on skin arising from suspected self-harm the candidate will be reviewed by Dermatologist prior to Psychiatrist. Possible self-inflicted injuries will be evaluated by the MO conducting medical examination. Presence of scar(s) on extremities and/ or other body parts accessible to dominant hand, indicative of being deliberately inflicted, will be grounds for declaring unfit. The medical specialist conducting medical examination will look for the following signs which will be grounds of rejection.

(b) **General Examination.**

(i) Prominent tremors

(ii) Bradykinesia

(iii) Rigidity (indicating usage of antipsychotics)

(iv) Excessive restlessness/ fidgeting

(v) Evidence of drug use (scarred and/collapsed veins, multiple puncture marks)

(vi) Excessive sweating over palms and soles

(vii) Tics

(viii) Stereotyped behaviors (rocking, hand-flapping etc.)

(c) **Appearance and behavior.**

(i) Poor grooming

(ii) Odd or eccentric behavior

(iii) Hallucinatory behavior (talking/ muttering to self)

(iv) Persistent downcast gaze/ avoiding eye contact

(d) **Speech.**

(i) Non-spontaneous/ monotonous

(ii) Prominent stammering

(iii) Mute

(iv) Abnormally low or high volume

(v) Not understandable/ incomprehensible

(vi) Vocal Tics

(e) **Mood.**

(i) Appearing unusually depressed or cheerful

(ii) Appearing apathetic

(f) **Neurological Examination**. Each candidate will undergo an orderly neurological examination.

(i) Evaluate speech (articulation, fluency, verbal comprehension, naming, repetition, reading and writing).

(ii) Examine cranial nerves.

(iii) Examine motor and sensory system examination of upper limbs, trunk and lower limbs.

(iv) Examine spine and skull.

(v) Examine peripheral nerves for thickening.

(vi) Test for coordination of lower limbs by asking the candidate to tandem walk. The test is done by asking the candidate to walk along a straight line placing the heel of one foot immediately in front of the toe of the one behind. Ask the candidate to turn around and walk back to the examiner. Look for swaying to either side and in-coordination while turning around.

(vii) Examine for tremors of hands, tongue, and eyelids The candidate should stand with his eyelids slightly closed and with his arms stretching out before him at shoulder level. The fingers should be separated and fully extended. If tremors are found to be significant, the candidate should be made unfit. In recording eye lid tremors, the normal blinking movements should be ignored.

30**. Standards for Fitness**

(a) **History.** When the answer to any question in self-declaration in AFMSF 2 is 'YES', the candidate will be suitably evaluated by a Conslt/ Sr Adv in the concerned specialty/ sub-specialty before being accepted/ rejected.

(b) **General Examination.**

UNFIT.

(i) Presence of icterus, cyanosis.

(ii) Moderate to severe hirsutism in females.

(iii) Lymph nodes more than one cm in size (more than 1.5 cm for inguinal group) and involving more than two groups or fixed/ confluent nodes.

(iv) Presence of any growth, ulceration, cracks/ fissures in the corner of mouth (angular stomatitis).

(v) Tongue: - Presence of macroglossia, tremors, cyanosis, tongue tie, leukoplakia.

(vi) Nails: - Presence of clubbing, platynychia, koilonychia, fungal infections in more than one nail, thimble pitting, separation of nails from nail bed, splinter haemorrhages.

(vii) Presence of peripheral edema.

(viii) Thyroid: - Any enlargement, nodularity, or lack of movement with swallowing.

(c) **Dermatological System.**

(i) **UNFIT.**

(aa) Presence of more than five CALM (Café-au-lait macules) or any other associated neuro-cutaneous syndromes.

(ab) Xanthomata and Xanthalesma if associated with hyperlipidemia.

(ac) Palmar and plantar warts, corns and extensive callosities.

(ad) Chronic skin diseases like psoriasis, lichen planus, bullous diseases, eczema, ichthyosis, palmoplantar keratoderma (thickening of palms and soles), recurrent urticaria, angioedema, dermographism.

(ae) Skin infections such as Tinea cruris, Tinea corporis, Intertrigo, Pityriasis versicolor, Impetigo, Folliculitis, Furunculosis, Scabies, warts, Molluscum contagiosum, Herpes simplex or zoster if extensive.

(af) Acne on the face or trunk of grade III and IV or with abscess, cysts, hypertrophic scars etc.).

(ag) Rosacea (Redness of face with dilated blood vessels and pustules).

(ah) Moderate to severe hirsutism in females.

(aj) More than 01 patch of alopecia areata characterized by circular/ oval patches of non-scarring hair loss/ solitary patch >2cm.

(ak) Loose or unduly elastic skin.

(al) Keloid (even if single).

(am) Large hypertrophic scars which interfere with normal functioning.

(an) Clinical evidence suggestive of leprosy.

(ao) Any evidence of STD, present or past.

(ap) Evidence of severe hyperhidrosis/ skin changes as sequel to hyperhidrosis.

(aq) Vitiligo

(ar) Palmo-plantar keratoderma manifesting with hyperkeratotic and fissured skin over the palms, soles and heels

(ii) **FIT.**

(aa) Vitiligo limited to glans penis.

(ab) Mild acne vulgaris

(ac) Scabies on completed treatment and full recovery

(ad) Scrotal dermatitis on full recovery

(ae) Tinea cruris, tinea corporis and Intertrigo after complete treatment and full recovery

(af) Folliculitis or sycosis barbae after complete recovery

(ag) Single corn/ wart/ callosity after 03 months of successful treatment and no recurrence

(ah) Localized congenital mole/ naevus of size <01 cm

(d) **Cardiovascular System.**

(i) **UNFIT.**

(aa) Persistent tachycardia (more than 100 pm).

(ab) Persistent bradycardia (less than 60 pm) which is not considered to be physiological.

(ac) Candidates with BP consistently greater than 140/90 mm Hg will be rejected at SMB. All such candidates will undergo 24 hours ambulatory BP monitoring and evaluated by a cardiologist at AMB.

(ad) Any abnormal heart sounds including organic murmurs, opening snap, clicks, rubs etc detected at SMB

(ae) Any ECG abnormality detected at SMB

(ii) **FIT.** Benign ECG changes like incomplete RBBB, T wave inversion in inferior leads, T inversion in V1- V3(persistent Juvenile Pattern), LVH by voltage criteria (due to thin chest wall) after being evaluated with ECHO and Stress Test.

(e) **RESPIRATORY SYSTEM**

(i) **UNFIT.**

(aa) Any scarring in pulmonary parenchyma or pleura, as evidenced by a demonstrable opacity on chest radiogram.

(ab) Any evidence of significant residual pleural thickening or pleural effusion.

(ac) History of repeated attacks of cough/ wheezing/ bronchitis may be manifestations of chronic bronchitis or other chronic pathology of the respiratory tract, unless PFT is satisfactory.

(ad) History of repeated attacks of bronchial asthma/ wheezing/ allergic rhinitis

(ii) **FIT.** Old treated pulmonary tuberculosis with no residual abnormality, if the treatment was completed more than two years earlier and there is no residual functional deficit. (Clinical, radiological, and other investigations).

(f) **GASTROINTESTINAL SYSTEM**

(i) **Liver**

(aa) **FIT.**

(aaa) Cases of hyperbilirubinemia, where the cause has been established as Gilbert's Syndrome meeting the fwg criteria: -

- Unconjugated Hyperbilirubinaemia with total serum bilirubin <3 mg/dl.
- Normal transaminase, PT/INR and albumin negative Anti HCV and HBsAg.
- No anomaly on PBS, reticulocyte, lactate dehydrogenase (LDH), Vit B12 and Hb electrophoresis
- Normal USG and FIBROSCAN
- Diagnosis of Gilberts Syndrome by Genetic analysis of UGT1A1 gene.

(aab) Hepatic calcifications if solitary and <01cm with no evidence of active disease like TB, Hydatid Disease, Sarcoidosis or Liver Abscess. If multiple punctate calcifications restricted to 1 cm diameter area in single segment.

(aac) Simple, solitary hepatic cyst <2.5cm, if LFT is normal and Hydatid serology is negative.

(aad) Grade-1 Fatty Liver with normal LFT

(ab) **UNFIT.**

(aaa) Presence of peripheral signs of liver cell failure (loss of hair, parotid enlargement, spider nevi, gynecomastia and testicular atrophy).

(aab) Hyperbilirubinemia of any nature is Unfit except for unconjugated hyperbilirubinemia where genetic studies confirm Gilberts syndrome as etiological factor.

(aac) Fatty Liver Gd-I with abnormal LFT, Fatty Liver Gd-II &III

(aad) Liver span of 15 cm or more, if liver is also clinically palpable

(aae) Solitary simple hepatic cyst > 2.5cm and Complex cyst of any size with thick walls, septations, papillary projections and debris.

(aaf) Multiple simple hepatic cysts of any size.

(aag) Multiple discrete hepatic calcifications involving more than one segment of any size or cluster calcifications >01cm diameter

(aah) Hepatic hemangiomas irrespective of size or location.

(aaj) Portal vein thrombosis.

(aak) Evidence of portal hypertension

(ii) **Spleen.** Following conditions of the Spleen are **UNFIT**

(aa) Splenomegaly >13cm

(ab) Asplenia

(ac) Any SOL

(g) **ENDOCRINE SYSTEM.** History should be carefully elicited for any endocrine conditions, particularly Diabetes Mellitus, Disorders of Thyroid, Adrenal Glands and Gonads. All cases of thyroid swelling will be rejected.

(h) **HAEMOPOEITIC SYSTEM**

(i) **UNFIT.**

(aa) Hemoglobin (Hb) of less than 13 g/dl in males and 11.5 g/dl in females.

(ab) Hemoglobin > 18 g/dl, irrespective of sex.

(ac) Any significant abnormality detected in PBS

(ad) Hereditary hemolytic anaemias (due to red cell membrane defect or due to red cell enzyme deficiencies) and Haemoglobinopathies.

(ae) Current bleeding disorders to include but not limited to Hemophilias, von Willebrand's Disease, Idiopathic Thrombocytopenia.

(af) Absolute Monocyte count > 1000/cu mm or more than or equal to 10% of total WBC count.

(ag) Absolute eosinophil count $\geq$500/cu mm.

(k) **Central Nervous System**

(i) **UNFIT.**

(aa) A candidate giving a history of mental illness/psychological afflictions requires detailed investigation and psychiatric referral. Such cases should normally be rejected.

(ab) History of insomnia, phobias, nightmares or frequent sleepwalking, when recurrent or persistent.

(ac) A candidate with migraine, which was severe enough to make him consult his doctor, should normally be a cause for rejection. Even a single attack of migraine with visual disturbance or MSigrainous epilepsy will be unfit.

(ad) History of epilepsy

(ae) History of severe head injury

(af) The presence of stammering, tic, nail biting, excessive hyperhydrosis or restlessness during examination which are indicative of emotional instability.

(ag) All candidates suffering from psychosis

(ah) Any evident neurological deficit

(aj) Tremors of eyelids, tongue and digits

(ak) Presence of scar(s) on extremities and/or other body parts accessible to dominant hand, indicative of being deliberately inflicted.

(al) Any abnormality not mentioned above but likely to interfere with performance of duty will also be rendered unfit.

(ii) **FIT.** Fracture of the skull, unless there is a history of associated intracranial damage or any residual bony defect in the calvaria.

SECTION - 4

DETAILED METHODOLOGY OF EXAMINATION FOR SPECIALISTS SURGERY AND ALLIED

31. **History.** A detailed history will be obtained from the candidate regarding all previous surgical procedures, injuries, ailments and treatment obtained for the same. These will be documented, which will be signed by the candidate.

32. **Method of General Surgical examination.**

(a) General physical examination of the candidate will be carried out in good illumination in a well-lit room, after removal of all clothes.

(b) For female candidates, examination should always be carried out in the presence of a lady attendant.

33. **Steps of examination.**

(a) As soon as the patient walks in, gait must be assessed.

(b) The candidate is asked to walk towards and away from the medical examiner.

(c) Spinal curvature is assessed when the candidate bends forward trying to touch his feet. Any abnormal curvature of the spine needs to be evaluated further.

(d) The candidate is then asked to fan out the fingers and a note is made of any deformity or any absence of/ supernumerary digits.

(e) The candidate is then asked to stand on his/ her toes and a note is made of any abnormal plantar arch, curvature and any absence of/supernumerary digits.

(f) Candidate is then asked to extend the forearm and abnormal curvature/ carrying angle is assessed.

(g) All the movements are assessed at neck/shoulder/ elbow/ wrist and joints of hands.

(h) All the hernial orifices are assessed after asking the candidate to cough facing away from the examiner.

(j) External genitalia are assessed in standing position to look for undescended testis/ any scrotal swelling/ mass.

(k) Movements and deformities are then assessed at the hip/ knee/ ankle and small joints of the feet.

(l) Patient is then examined in the left lateral position lying on the couch with right knee flexed and touching the chest and left leg extended. Candidate is asked to cough to look for hemorrhoids. During this process, visual assessment for fissure/fistula/skin tags/ previous scars and pilonidal sinus are made.

(m) Candidate is then asked to lie supine on the examination couch and general examination of the abdomen is done to look for any organomegaly, scar, sinuses, fistula/ dilated veins/ any other abnormal findings.

34. **Head & Neck.**

(a) Any craniofacial abnormality.

(b) Cleft lip/ palate.

(c) Previous scars of craniotomy or any head and neck surgery

35. **Chest & spine.**

(a) Visible Pulsations.

(b) Amazia, Polymazia, Polythelia, Gynecomastia, discharge from nipples, lump/abscess in the breast.

(c) Chest symmetry.

(d) Dilated vessels.

(e) Respiratory movements.

(f) Deformities of rib cage, scapula, shoulder, spine.

(g) Congenital abnormalities.

(h) Hypertrichosis, dimpling of skin, vascular tumors, pigmented naevi, sinuses, tuft of hair over spine, kyphosis, and scoliosis.

(j) Any scar of previous surgery.

36. **Abdomen**

(a) Size, distention, symmetry.

(b) Movements of abdominal wall, surgical scars, dilated vessels.

(c) Visible peristalsis.

(d) Hernia, impulse on coughing.

(e) Tenderness, lump/ fluid, liver, gallbladder, kidneys.

(f) Inguinal lymph nodes.

(g) Hemorrhoids, prolapse of rectum/ uterus, skin tags.

(h) Fistulae, pilonidal sinus, condyloma, fissures, sinuses.

37. **Urogenital**

(a) Penis, scrotum, spermatic cord, epididymis, meatus (location), urethra.

(b) Hydrocele, varicocele, undescended testis, atrophic testis.

(c) External genitals in females.

(d) Visible lesions indicative of Sexually Transmitted Infections.

38. **Extremities and Musculoskeletal system.**

(a) Upper limbs:

(i) Fingernails - Splinter hemorrhages, platynoychia, separation from nail bed and absence of nails.

(ii) Deformities of elbows & digits.

(iii) Axillary lymph nodes, warts, corns, callosities, abnormal growth.

(iv) Joint swelling, Cubitus varus/valgus.

(v) Deformities of shoulder/elbow/wrist joints, abnormal/restricted movements.

(vi) Complete/ partial amputation of digits/ polydactyly/ syndactyly.

(vii) Evidence of recurrent dislocation of shoulder.

(viii) Neuro-vascular deficits.

(ix) Muscles wasting, reflexes, coordination.

(b) **Lower Limbs.**

(i) Stance, gait, balance.

(ii) Oedema, varicose veins, ulcers, warts, corns, callosities, growths.

(iii) Muscle wasting, reflexes, coordination.

(iv) Knock knee, bow legs, flat feet, hammer toes.

(v) Joint swelling, Genu varus/ valgus/ recurvatum.

(vi) Flat feet, deformities of arch of foot, clubfoot.

(vii) Complete/ partial amputation of toes/ Polydactyly/ Syndactyly.

(viii) Neurovascular deficit.

(ix) Hallux valgus/varus.

39. **Vascular & lymphatic system.**

(a) Varicose veins

(b) Peripheral Arterial Disease

(c) Deep Vein Thrombosis

(d) Thrombophlebitis

(e) AV malformation

40. **Fitness after Surgery.** Candidates will be considered fit only after the minimum laid down period following surgery for the disease/disability is over and there are no complication or residual defect.

(a) All open abdominal surgeries including midline laparotomies can be assessed for fitness after 24 weeks from the date of surgery.

(b) For any other surgery, where the time period after minor surgical procedure is not mentioned in this manual, the candidate can be assessed for fitness after a minimum of 02 weeks and for other surgeries after 12 weeks of the surgery, provided the scar is well healed and there is no post op complication.

(c) The final decision on fitness for these candidates presenting with previous surgeries shall depend upon the exact nature of surgery & indication for surgery as stated in the authentic medical documents, OT notes, histopathology reports, hospital discharge summary or case summary etc. signed & stamped by a registered medical practitioner or surgeon. Candidates who have undergone a surgical procedure will be declared unfit if the aforesaid supporting documents are nor produced, irrespective of the nature of the surgery.

41. **Standards for fitness.** Standards of fitness are described in detail in the following sections.

42. **Abdomen.**

(a) **Anterior abdominal wall hernia including Femoral hernia.**

(i) **FIT.** After 24 weeks of surgery (open as well as laparoscopic) provided there is no recurrence or post-op complications

(ii) **UNFIT.**

(aa) All current or operated cases of incisional hernia

(ab) All cases of current anterior abdominal wall hernia

(b) **Inguinal hernia.**

(i) **FIT.** After 01 year of hernia repair surgery (open as well as laparoscopic) provided there is no recurrence or post-op complications.

(ii) **UNFIT.** All cases of current inguinal hernia

(c) **Anorectal Conditions.**

(i) **FIT.**

(aa) Those with external skin tags and after rectal surgery for polyps, haemorrhoids, fissure, fistula, or ulcer provided 12 weeks of post op period is complete and there is no residual/recurrent disease.

(ab) Well healed post op cases of pilonidal sinus when assessed after 12 weeks of surgery

(ii) **UNFIT.**

(aa) Those with current evidence of anal fistula, hemorrhoids, (internal or external), anal or rectal polyp, stricture, or fecal incontinence.

(ab) Rectal prolapse even after operative correction

(ac) Any anorectal surgery with post op complications.

(ad) Current evidence of pilonidal sinus

(d) **Gallbladder**.

(i) **FIT.**

(aa) Normal echotexture and anatomy of the gallbladder

(ab) Cases of laparoscopic cholecystectomy with normal LFT, normal histopathology, well healed port sites and no incisional hernia when assessed 08 weeks post-op

(ac) Cases of open cholecystectomy with normal LFT, normal histopathology, well healed scar and no incisional hernia when assessed 24 weeks post-op

(ad) Agenesis of gall bladder in the absence of any other biliary tract abnormalities (MRCP to be done)

(ii) **UNFIT.**

(aa) Clinically palpable gall bladder

(ab) USG evidence of cholecystitis/ cholelithiasis/ biliary sludge/ polyp/ choledochal cyst/gall bladder wall thickening > 05mm/ septate gall bladder/ any evidence of chronic cholecystitis/ gall bladder mass

(f) **Spleen.** Candidates having undergone splenectomy will be declared **UNFIT**

(g) **Pancreas.** Candidates with any of the following conditions will be declared **UNFIT: -**

(i) Any structural abnormality.

(ii) Space Occupying Lesion/ Mass lesion.

(iii) Features of chronic pancreatitis (calcification, ductal abnormality, atrophy).

(h) **Peritoneal Cavity.**

(i) **UNFIT.**

(aa) Ascites.

(ab) Solitary mesenteric or retroperitoneal lymph node >1 cm.

(ac) Two or more lymph nodes of any size.

(ad) Any mass or cyst.

(ii) **FIT.** Single retroperitoneal LN <1 cm and normal in architecture

(j) **Appendix.** Candidates can be assessed for fitness after appendectomy and declared **FIT** provided that the port site/ incisional site is well healed, there is no evidence of incisional hernia and histopathological report of acute appendicitis is available. Such candidates can be assessed for fitness after post-op duration mentioned as under: -

(i) 04 weeks after laparoscopic appendectomy

(ii) 12 weeks after open appendectomy with muscle split approach

(iii) 24 weeks after muscle cut approach

43. **Urogenital System**

(a) **Examination**. The external genitalia will be meticulously examined to rule out the presence of congenital anomalies such as: -

(i) Hypospadias.

(ii) Epispadias.

(iii) Ambiguous genitalia and undescended or ectopic testis.

(b) In addition, look for other conditions such as: -

(i) Hydrocele

(ii) Varicocele.

(iii) Epididymal cyst/ mass

(iv) Infection of the urethra and/ or testes/ epididymis

(v) Phimosis

(vi) Stricture urethra.

(vii) Meatal stenosis.

44. **Renal Conditions.**

(a) **Renal Calculi/ Urolithiasis.** The following conditions will render a candidate **UNFIT**: -

(i) Current evidence or history of urolithiasis, recurrent calculus, bilateral renal calculi, nephrocalcinosis.

(ii) Candidates having undergone any surgical procedure to treat urolithiasis.

(iii) Urethral calculus

(b) **Renal Cyst.**

(i) **FIT.** Solitary, unilateral, simple renal cyst less than 1.5 cm.

(ii) **UNFIT**.

(aa) Complex cyst of any number/ size.

(ab) Solitary Simple cyst >1.5cm (Unilateral).

(ac) Multiple cysts of any size or any number (unilateral or bilateral).

(c) **Congenital defects**. The following conditions will render a candidate **UNFIT: -**

(i) Solitary kidney

(ii) Horseshoe kidney

(iii) Hydronephrosis

(iv) Ectopic/ mal-rotated kidney

(v) Hypoplastic kidney with length <08cm in long axis

(vi) Calyectasis

(d) **Renal Transplant recipients**. **UNFIT**

(e) **Nephrectomy (Simple/Radical/Donor)/Partial nephrectomy/ RFA/ Cryoablation**. **UNFIT**

(f) **Urinary bladder.**

(i) **UNFIT.**

(aa) Vesical calculus

(ab) Bladder diverticulum

(ac) Current evidence of urachal cyst

(ii) **FIT.** Urachal cyst, 08 weeks after surgery if the wound has healed well, with no post-operative complications

(g) **Undescended Testis (UDT) and Loss of Testis.**

(i) **FIT.**

(aa) Operatively corrected undescended testis. provided it is normal in location and the wound has healed well.

(ab) Unilateral atrophic testis provided other testis is normal in size, fixation and location

(ac) Unilateral orchiectomy for benign condition, provided other testis is normal in size, fixation and location

(ii) **UNFIT.**

(aa) Any abnormal position of testis, unilateral or bilateral.

(ab) Bilateral orchiectomy due to any cause such as trauma, torsion/infection.

(ac) Bilateral atrophic testis

(ad) Undescended testis, complete or incomplete (unilateral/bilateral)

(ae) Testicular mass (unilateral/bilateral)

(h) **Varicocele.**

FIT.

(i) Clinically, sub clinically and radiologically grade I

(ii) Post-op cases with no residual varicocele and no post-op complications when assessed 08 weeks after surgery

(j) **Hydrocele.**

(i) **FIT.** Operated cases if there are no post-op complications and the wound has healed well, when assessed 08 weeks after surgery

(ii) **UNFIT.** Current hydrocele on any side.

(k) **Epididymal Cyst/ Mass, Spermatocele**

(i) **FIT.** Post-operative cases after 08 weeks of surgery in absence of recurrence and only when benign on histopathology report

(ii) **UNFIT.** Current presence of cyst/ mass.

(l) **Epididymitis/ Orchitis.**

(i) **UNFIT.** Presence of current orchitis or epididymitis/ tuberculosis.

(ii) **FIT.** After treatment, provided the condition has resolved completely.

(m) **Epispadias/ Hypospadias.**

(i) **FIT.**

(aa) Glanular hypospadias

(ab) Post-operative cases of other forms of hypo/epispadias after 08 weeks of successful surgery provided recovery is complete and there are no complications.

(ii) **UNFIT.** Current evidence of hypospadias and epispadias (Except Glanular type)

(n) **Penile amputation.** Any amputation will render the candidate **UNFIT.**

(o) **Phimosis.**

(i) **FIT.** All operated cases, provided 08 weeks period have elapsed since surgery, with a well healed wound and no post-op complications

(ii) **UNFIT.** Current phimosis, if tight enough to interfere with local hygiene and voiding and/or associated with Balanitis Xerotica Obliterans.

(p) **Meatal Stenosis**

(i) **FIT.**

(aa) If not interfering with voiding.

(ab) Post op cases after 08 weeks, provided post-operative wound is fully healed and no post op complications are present.

(ii) **UNFIT.**

(aa) Current stenosis, if small enough to interfere with voiding.

(ab) Clinically significant meatal stenosis with thin stream or interfering with voiding or associated with back pressure changes.

(q) **Stricture Urethra, Urethral Fistula.** History of/ current disease or after surgery is **UNFIT**.

(q) **Sex reassignment surgery/Intersex conditions.** **UNFIT**

45. **Vascular System.**

(a) **Varicose Veins**

(i) **UNFIT.**

(aa) Clinical evidence of varicose veins (dilated, elongated, tortuous veins) with or without complications

(ab) Prominent veins with clinical or radiological evidence of SFJ, SPJ or multiple perforator incompetence.

(ac) Post-op cases of varicose veins with complications.

(ii) **FIT.**

(aa) Mild cases of varicose veins

(ab) Post op cases after 06 weeks, provided post-operative wound is fully healed and no post op complications are present.

(b) **Arterial System.** Current or history of abnormalities of the arteries and blood vessels such as aneurysms, arteritis, and peripheral arterial disease.

(c) **Lymphoedema–Primary or Secondary.** Candidates with history of past/current disease will be declared **UNFIT**

46. **Head, Neck and Chest.**

(a) **Deformities of Skull and Face**

(i) **UNFIT.**

(aa) Cranio-facial anomalies or anomalies which prevent the individual from wearing a protective mask or military headgear or are likely to interfere in training or discharge of military duties.

(ab) Unfit even after correction surgery for the above has been done.

(ac) Any residual postoperative defect in the skull.

(ii) **FIT.** Hyperostosis frontalis interna will be considered fit in the absence of any other metabolic abnormality.

(b) **Head Injury.** Any history of head injury requiring surgical intervention or with residual medical/surgical deficit or having sequelae of head injury will render a candidate **UNFIT**

(c) **CNS shunts.** Past history or current presence of a shunt will render a candidate **UNFIT**

(d) **Cleft Lip and Palate.**

(i) **UNFIT.**

(aa) Cleft lip in presence of current defects

(ab) Cleft palate (Even after surgery)

(ii) **FIT.** Cleft lip after surgical correction without any postoperative complications, gross cosmetic deformity or functional problems and absence of other congenital anomalies of middle ear, speech and orthodontic problems.

(e) **Congenital Cyst of Branchial Cleft Origin, Thyroglossal Cyst with or without Fistulous Tracts**

(i) **UNFIT.** Current untreated disease.

(ii) **FIT.** After surgery, provided there are no post-operative complications, residual/ recurrent disease and wound has healed well.

(f) **Chest wall deformities.** Any chest wall deformities like Pectus excavatum, Pectus carinatum, that are likely to interfere with physical exertion during training and performance of military duties or adversely affect military bearing or are associated with any musculoskeletal, pulmonary or cardiac anomaly will render a candidate **UNFIT**. Haller's Index will be calculated for objective evidence.

(g) **Cervical rib.** Candidates will be declared **UNFIT** when cervical rib is associated with vascular compromise and/or neurological deficit assessed by clinical examination and relevant investigations.

(h) **Any Resection of Lung Parenchyma. UNFIT**

(j) **Cardiac Surgery/ Intervention. UNFIT**

(k) **Amazia, Polymazia and Polythelia**. Candidates will be declared **UNFIT.** Those having undergone surgery for Polymazia and Polythelia can be declared **FIT** after12 weeks post-op in the absence of any complications.

(l) **Gynaecomastia.** Candidates may be declared **FIT** after 12 weeks post-op period provided: -

(i) The surgical scar is well healed with no residual gynaecomastia

(ii) No post-op complication

(iii) Surgical scar is sufficiently mature and unlikely to cause any problems during military training

(iv) Endocrine workshop is normal

47. **Skin/ Subcutaneous Tissue.**

(a) **Lipoma.** Candidates will be declared **FIT** unless causing significant disfigurement/ functional impairment due to its size/ location.

(b) **Neurofibromas**

(i) **FIT.** Single neurofibroma (<1.5cm) unless plexiform

(ii) **UNFIT.** More than one neurofibromas or single plexiform neurofibroma

(c) Candidates with congenital multiple naevi or vascular tumours that interfere with function or are exposed to constant irritation will be declared **UNFIT**

(d) Candidates with moles/ nevi > 10 cm size in greatest dimension, anywhere in the body will be declared **UNFIT**

48. **Musculoskeletal system**

(a) **History.** A detailed history is to be elicited as per declaration form and supplementary questionnaire attached to AFMSF 2. History of illness not covered in the questionnaire may be elicited if examination findings indicate presence of a condition.

(b) **Examination.**

(i) The candidate should be completely exposed so that the entire spine, buttocks and shoulders are visible. In case of females, appropriate short underclothing may be worn, and examined in presence of a lady attendant.

(ii) A quick survey of the whole body from head to toe is done from the front, back and both sides, looking for asymmetry of body structure, body posture, and muscular development.

(iii) The candidate should be asked to walk a few steps taking the opportunity to observe the gait pattern specifically observing the step length, any visible lurch or limp, high steppage of feet, unusual drop of the hemi-pelvis or shoulder.

(iv) Candidate may be asked to walk on toes in a straight line. He/she is then asked to stand erect and demonstrate the range of movement of all the joints of the upper limb and lower limb. He/she is then asked to bend completely forward to demonstrate spinal movement and normal flexibility. Regional examination of individual areas like the neck, shoulder, elbow, wrist and hand, hips, knees, ankle and foot should be accomplished in a methodical and meticulous manner.

(v) Specifically look for scarring due to injuries/surgery in the extremities and spine region and arthroscopic portal scars around the major joints. The traditional tenets of examination including inspection, palpation, movement, measurement and assessment of range of motion and stability of the individual joints should be done.

(vi) Congenital anomalies of the extremities, coronal and sagittal plane deformities of the limbs, amputations, deformities and loss of digits or its parts should be looked for. The candidate's footwear may also be inspected to look for abnormal patterns of wear.

(c) **Examination of Spine.** A thorough examination of the spine of the candidate will be done while standing from front, side and behind. The following aspects shall be examined: -

(i) The candidate's gait will be assessed for bipedal unassisted, toe and heel walking and tandem gait.

(ii) On examination from behind and side; note will be made of the curvature of the spine and any deviation in curvature in sagittal and coronal plane suggestive of excessive lordosis, kyphosis, or scoliosis will be noted.

(iii) Shoulder asymmetry should be noted

(iv) Abnormality noted on the skin overlying the spine viz, hypertrichosis with long silky hair, dimpling of skin, hemangioma or pigmented naevus or dermal sinus present over the spine are signs which should alert the recruiting MO to an underlying spinal pathology or spinal dysraphism.

(v) Palpate the spine for any defect/ step or tenderness.

(vi) Candidate must be asked to bend forwards and touch the ground with his/her fingers. Candidates should be examined for lateral and rotational movements of the spine. Restriction in movements in cervical, thoracic, and lumbar spine must be assessed and documented.

(vii) Note for any abnormal prominence of the rib cage signifying a rib hump in case of scoliosis. Any limb length discrepancy, pelvic obliquity must be noted.

(viii) Examine for loss of lordosis, paraspinal spasm, muscle wasting and hamstring tightness.

(ix) Neurological examination for assessment of motor & sensory deficits, and deep tendon jerks.

In case of any abnormality mentioned above, the candidate will be UNFIT.

49. The **following conditions of the spine are UNFIT**: -

(a) **Spina Bifida**. Spina bifida with or without associated cord anomalies like tethered cord, diastematomyelia, split cord malformation.

(b) **Lumbosacral Transitional Vertebrae.** Castellvi Type II (a) &(b), III (a) and IV.

(c) **Vertebral Body Anomalies**. Anterior/ Central Defect/Formation defects (Hemivertebra, wedge vertebra/ Segmentation defects (Complete Block vertebra at more than one level, incomplete Block vertebra at any level) Post traumatic collapse,

vertebral compression fracture.

(d) Spondylolysis and Spondylolisthesis (any grade)

(e) Spinal Canal Stenosis

(f) Spondylosis and Disc Prolapse any grade

(g) Spinal Kyphosis any grade.

(h) Scheuermann's Kyphosis any grade

(j) Schmorl's Nodes at more than one level

(k) Cobb's angle more than 10 degrees at Lumbar spine and 15 degrees at dorsal spine

(l) The following radiological abnormalities are **UNFIT**:

(i) Post infective kyphosis or spondylitis

(ii) Atlanto - axial/atlanto-occipital anomalies.

(iii) Ankylosing spondylitis or other inflammatory spondylopathies.

(iv) Granulomatous disease of spine.

50. The following conditions of the spine are **FIT**: -

(a) Spina Bifida sacrum and LV_5 if completely sacralized

(b) LSTV Type I (a) & (b), Type III (b)

(c) Complete block vertebra at single level

(d) Cobb's angle upto 10 degrees at Lumbar spine and upto 15 degrees at Dorsal spine, provided: -

(i) Individual is asymptomatic

(ii) There is no history of spinal trauma

(iii) No chest asymmetry/ shoulder imbalance or pelvic obliquity in the lumbar spine.

(iv) No neurological deficit

(v) There is absence of syndromic features

(vi) ECG is normal

(vii) No deformity exists on full flexion of the spine.

(viii) No restriction of range of movements

51. **Standards for Musculoskeletal System**

(a) **General.** Current deformities, disease, or chronic joint pain of pelvic region, thigh, lower leg, knee, ankle or foot that prevent the individual from following a physically active life or that may reasonably be expected to interfere with walking, running, weight bearing, or with satisfactorily completing training or military duty may be evaluated by specialist. The following conditions will be declared as **UNFIT: -**

(i) Limb Length discrepancy resulting in functional impairment

(ii) Evidence of arthritis (Degenerative, Inflammatory or Secondary)

(iii) Musculo-skeletal tumors: Existing or Operated (benign/malignant)

(iv) Any dislocation of joints (Incl recurrent dislocations) with or without history of corrective surgery.

(b) **Lower Limbs conditions that will render a candidate UNFIT.**

(i) **Foot.**

(aa) Any amputation of foot or part thereof.

(ab) Complete or partial loss of great toes.

(ac) Loss of the entire toe.

(ad) Loss of terminal phalanx of 02 or more toes (excluding great toe).

(ae) Angular deformity of toes more than 10 degrees with callosities, corns or overriding.

(af) Hallux Valgus with 1st MTP angle > 20 degrees and IMT angle > 10 degrees between 1st and 2nd metatarsals. Hallux Valgus of any degree with bunion, corns or callosities.

(ag) Symptomatic deformity of the toes (acquired or congenital), including but not limited to conditions such hallux varus, hallux rigidus, hammer toe(s), claw toe(s), or overriding toe(s) when associated with callosities, bunion, corns.

(ah) Clubfoot, Pes cavus (high arch foot).

(aj) Rigid or symptomatic Pes planus (acquired or congenital) - arches do not reappear on standing on toes, unable to skip on forefoot.

(ak) Symptomatic neuroma.

(al) Polydactyly

(am) Syndactyly (>25%)

(an) All cases of complex syndactyly

(ii) **Foot (FIT conditions).**

(aa) Polydactyly can be assessed for fitness 12 weeks post-op and can be declared **FIT** if there is no bony abnormality on X-Ray, wound is well healed, scar is supple and there is no evidence of neuroma on clinical examination.

(ab) Simple syndactyly can be assessed for fitness 12 weeks post-op and can be declared **FIT** if there is no bony abnormality on X-Ray, wound is well healed, scar is supple and webspace is satisfactory.

(ii) **Knee (Conditions that will render a candidate UNFIT).**

(aa) Current loose or foreign body in the knee joint.

(ab) Anterior or posterior cruciate, medial and lateral collateral ligament injury with or without instability.

(ac) ACL reconstruction surgery (Open or Arthroscopic).

(ad) Symptomatic medial or lateral meniscal injury with limitation of activity.

(ae) Meniscectomy, meniscal repair, meniscal transplant.

(af) Dislocation of patella in past 02 years, or recurrent episodes with or without surgery.

(ag) Dislocation of the knee, with or without surgery.

(ah) Chondromalacia patellae, chronic patello-femoral pain syndrome and, osteoarthritis, or traumatic arthritis.

(iii) **Hip (Conditions that will render a candidate UNFIT).**

(aa) Developmental dysplasia (congenital dislocation) of the hip, osteochondritis of the hip (Legg-Calve-Perthes Disease) or slipped capital femoral epiphysis of the hip.

(ab) Traumatic hip dislocation.

(ac) Hip arthroscopy or femoral acetabular impingement.

(iv) **Angular deformities (Conditions that will render a candidate UNFIT).**

(aa) **Genu Varum** with Intercondylar distance >07 cm. Measure in standing posture, knees in full extension, thighs touching closely, measured at level of adductor tubercle.

(ab) **Genu Valgum** with Intermalleolar distance > 5 cm in males and > 8 cm in females. Measure in standing posture, knees in full extension,

thighs touching closely, measured at level of tip of medial malleolus.

(ac) **Genu Recurvatum** with Hyperextension of knee >10 degrees is unfit. Measure in standing posture, knees in full extension.

(c) **Upper Limb (Conditions that will render a candidate UNFIT).**

(i) **Fingers and Thumbs**: Inability to clench fist, pick up a pin, grasp an object, or touch tips of fingers with thumb.

(ii) Absence/ deformity - Hand and Fingers:

(aa) Absence of any part of either thumb or index finger.

(ab) Any fixed deformity of fingers

(ac) Loss of any finger or fingers or parts thereof (Except terminal phalanx of little finger).

(ad) Partial loss of distal phalanx with functional disability.

(ae) Amputation through the DIP joint or any other joint proximal to it.

(af) Corrected or uncorrected congenital deformity of the hand, polydactyly or syndactyly.

(ag) Any tendon injury, vascular injury, fractures and nerve injury(s), corrected or uncorrected, with functional deficit.

(ah) Polydactyly/ syndactyly

(aj) Hyper-extensible finger joints, (Extension of fingers beyond 90^0) including isolated presentations.

(iii) Conditions for which a candidate may be considered as **FIT: -**

(aa) Polydactyly can be assessed for fitness 12 weeks post-op and can be declared FIT if there is no bony abnormality on X-Ray, wound is well healed, scar is supple and there is no evidence of neuroma on clinical examination.

(ab) Simple syndactyly can be assessed for fitness 12 weeks post-op and can be declared FIT if there is no bony abnormality on X-Ray, wound is well healed, scar is supple and webspace is satisfactory.

(ac) Candidates with mild fixed deformities i.e., less than 10 degrees of extension lag without any evidence of trauma, pressure symptoms and no functional deficit.

(iii) **Elbow (UNFIT conditions)**

(aa) Cubitus Valgus: -Carrying angle > 15 degrees in males and > 18 degrees in females **(Carrying angle to be measured by goniometry).**

(ab) Cubitus Varus > 05 degrees.

(ac) Cubitus Recurvatum >10 degrees.

(ad) Fixed flexion deformity of any degree.

(d) **Miscellaneous conditions of the extremities considered UNFIT**

(i) Symptomatic osteochondritis of the tibial tuberosity (Osgood-Schlatter Disease) within the past 12 months.

(ii) Stress fractures, either recurrent or a single episode occurring during the past 12 months.

(iii) Acromio-clavicular separation

(iv) Joint replacement or resurfacing of any site.

(v) Neuromuscular paralysis, weakness, contracture, or atrophy.

(vi) History/clinical evidence of healed or current osteomyelitis.

(vii) Osteochondral defects, osteochondritis dissecans.

(viii) History of any cartilage surgery, including but not limited to cartilage debridement or chondroplasty, chondromalacia, microfracture, or cartilage transplant procedure.

(ix) History of post-traumatic or exercise-induced compartment syndrome.

(x) Osteonecrosis of any bone.

(xi) Any joint laxity, unstable joint, ligamentous injuries, any surgery of the joint for any disease/disability, malformation/deformity, cysts, arthritis.

(e) **FRACTURES**

(i) **UNFIT.**

(aa) All intra-articular fractures of large joints with or without surgery, with or without implant.

(ab) All extra-articular fractures with post-op implant in situ.

(ac) Current malunion or non-union of any fracture. Any sequalae of extra-articular fractures (Nuro-vascular deficit. Soft tissue loss, functional deficit, osteomyelitis/ sequestrae formation)

(ad) Healed fractures with significant cosmetic deformity, any angulation, rotational deformity or shortening.

(ae) Healed Fractures of long bones, less than 09 months old.

(ii) **FIT.**

(aa) Current retained hardware (including plates, pins, rods, wires, or screws) will be considered for fitness after minimum of 12 weeks of implant removal.

(ab) Candidates with extra-articular fractures of long bones, who have been treated conservatively, can be assessed for fitness after 09 months of injury. They can be declared **FIT** is there is no evidence of mal-alignment/ malunion, neuro-vascular deficit, soft tissue loss, functional deficit, osteomyelitis/sequestra formation.

52. **EAR NOSE AND THROAT**

(a) Examination of ear, nose and throat is required to exclude conditions which will impede optimal performance of Armed Forces personnel in various situations in peace and war.

(b) **History.** History of otorrhoea, hearing loss, vertigo including motion sickness, tinnitus to be elicited. History suggestive of allergic rhinitis/ nasal polyps, ozoena, recurrent epistaxis, dysphonia, dyspnoea, dysphagia and history of any surgery of ear, nose, throat, neck is also required to be elicited. Family history of hearing loss is also required to be elicited.

(c) **Examination.** To avoid overlooking or missing minor functional and anatomical abnormalities, the following points should be observed when examining the ears, nose and throat: -

(i) A good illumination.

(ii) A set pattern of examination.

(iii) An adequate view of all parts under examination.

(d) **Nose and Paranasal Sinus.** A Thudicum nasal speculum may be used to aid nasal examination. Septum will be assessed for deviation remarkable enough to cause persistent airway obstruction. Nasal airway assessment should be done by cold spatula test. It is important to look for perforations in the nasal septum. The nasal mucosa will be assessed for signs of inflammatory diseases of the nose/ paranasal sinuses like hyperemia, mucopurulent discharge, atrophy and crusting. Plain radiographic examination of the sinuses is fraught with inconsistencies and is not indicated. Presence of nasal polyps/growth/ulceration will be assessed.

(e) **Oral Cavity and Throat**

(i) **Mouth**. Look for submucous fibrosis, leukoplakia, erythroplakia, ulcerative or exophytic lesions in the oral cavity.

(ii) **Pharynx**. Tonsils will be assessed for signs of chronic inflammation in the form of hyperemia of anterior faucial pillars and pus/debris in the tonsillar crypts. Presence of any ulcer/mass lesion should be looked for. Presence of

pooling of saliva indicating dysphagia to solids/ liquids will be noted.

(f) **Larynx**. Presence of severe change in voice, stridor/ dyspnoea will be noted.

(g) **Ear.** All candidates will be instructed to get ear wax removed under their own arrangements before reporting for medical examination. However, if wax is present on examination which is impeding adequate visualization of external auditory meatus/ tympanic membrane, the candidate will be given time to get the wax removed and will be re-examined. In case, it is not possible to re-examine the candidate, he/she should be referred to an ENT centre convenient to the candidate for re-examination without declaring him/ her unfit. The candidate will be specifically instructed to get the wax removed before reporting for this re-examination.

(h) **Auricle and Mastoid Region**. The pinna will be assessed for gross deformity which will hamper wearing of uniform/ personal kit/protective equipment or which adversely impacts military bearing. The preauricular and postauricular regions should be carefully examined for scars and deformities due to past operations. Cauliflower ear for wrestlers and boxers may be accepted provided there is no functional deficit.

(j) **External Auditory Meatus**. It is inspected by pulling the auricle upwards, backwards and outwards to straighten the external canal. Presence of wax, foreign body, exostosis, growth, otomycosis or discharge is noted.

(k) **Tympanic Membrane**. Tympanic membrane must be inspected quadrant-wise by otoscopy. The ear is examined for perforation, scars, tympano-sclerotic plaques or retraction of membrane. Mobility of the tympanic membrane will be assessed by Valsalva maneuver.

(l) **Assessment of Hearing**. Good hearing in both ears is a must. Assessment of hearing is to ensure adequate bilateral hearing acuity and freedom from any disease of the ear or upper respiratory passage. Unilateral deafness limits optimal sound perception and ability to locate the direction of sounds.

(m) Auditory acuity is assessed without the use of any hearing aid. Testing for Conversational Voice (CV) is done for each ear separately. The candidate stands in a quiet room at a distance of 610 cm from the examiner with his back turned towards the latter. This prevents lip reading. An assistant will mask the non-test ear. Masking is done by placing a stiff piece of paper over the auricle and using the pulp of the fingertip to make a gentle circular rubbing motion producing a continuous rustling sound. CV test will be done using spondee words (bi-syllable words with equal phonetic emphasis on both components e.g., football). The distance at which the candidate can repeat fifty percent of the words correctly will be noted as CV.

(n) **Instructions for ENT Specialist.** Detailed ENT examination by the Specialist is indicated in those cases where the candidate has been made unfit by a Recruiting MO.

(o) **Nose and Paranasal Sinus.**

(i) Nasal cavity and naso-pharynx may be assessed by nasal endoscopy.

(ii) The septum will be assessed for deviation remarkable enough to cause persistent airway obstruction.

(iii) It is important to look for perforations in the septum. The size of the perforation and presence of whistling noise on breathing will be noted.

(iv) The nasal mucosa will be assessed for signs of inflammation of nose/para-nasal sinuses like hyperemia, mucopurulent discharge, atrophy and crusting. Presence of mucopus in the middle meatus will be noted. Presence of growth, polyps, granulomatous lesion and ulcer will be assessed.

(p) **Oral Cavity and Throat.**

(i) **Mouth.** Look for submucous fibrosis, leukoplakia, erythroplakia, ulcerative or exophytic lesions in the oral cavity.

(ii) **Pharynx.** Tonsils will be assessed for signs of chronic inflammation in the form of hyperemia of anterior faucial pillars and pus/ debris in the tonsillar crypts. Presence of any ulcer/ mass lesion should be looked for. Presence of pooling of saliva indicative of dysphagia to solids/ liquids will be noted.

(iii) **Larynx.** Presence of remarkable changes in voice, stridor/ dyspnoea will be noted and considered unfit.

(q) **Ear.** If wax is present on examination which is impeding adequate visualization of external auditory meatus and tympanic membrane, the Specialist may attempt to remove the wax provided it is easily removable without possibility of injury to the external auditory meatus and tympanic membrane. If wax is not easily removable, the candidate will be advised to report after getting the wax removed.

(i) **Auricle and Mastoid Region.** The pinna will be assessed for gross deformity which will hamper wearing of uniform/personal kit/ protective equipment or which adversely impacts military bearing. The preauricular and postauricular regions should be carefully examined for scars, sinuses and deformities due to past operations.

(ii) **External Auditory Meatus.** Presence of wax, foreign body, exostosis, growth, otomycosis or discharge is noted.

(iii) **Tympanic Membrane.** Tympanic membrane must be inspected quadrant-wise by otoscopy and if required by oto-endoscopy/ oto-microscopy. Perforations, scars, tympanosclerotic plaques or retraction of membrane will be carefully looked for. Mobility of the tympanic membrane will be assessed by Valsalva maneuver, Pneumatic Otoscopy and if required by Tympanometry.

(iv) **Assessment of Hearing.** Good hearing in both the ears is a must. Assessment of hearing is to ensure adequate bilateral hearing acuity and freedom from any disease of the ear or upper respiratory passage. Unilateral deafness limits optimal sound perception and ability to locate the direction of sounds. Auditory acuity is assessed without the use of any hearing aid.

(v) **Free Field Hearing Tests.** For Conversational Voice (CV) and Forced Whisper (FW) voice tests, each ear must be tested separately. It is necessary to standardize the technique, to make findings reproducible and comparable. The candidate should stand in a quiet room at 610 cm from the examiner with

his back turned towards the latter. This prevents lip reading. An assistant will mask the non-test ear. Masking is done by placing a stiff piece of paper over the auricle and using the pulp of fingertip to make a gentle circular rubbing motion producing a continuous rustling sound. CV will be done using spondee words (bi-syllable words with equal phonetic emphasis on both components). The distance at which the candidate can repeat 50% of the words correctly will be noted as CV. FW is carried out by whispering with the residual air at the end of an ordinary expiration. The candidate is asked to repeat the spondee words spoken by the examiner. The distance at which the candidate repeats 50% of the words correctly is recorded as FW.

(vi) **Tuning Fork Tests.** Rinne test and Weber test may be employed to ascertain the type of hearing loss present.

(vii) **Pure Tone Audiometry (PTA).** PTA will be performed for detailed assessment of hearing acuity wherever indicated. Audiometry will be done in a sound treated room and the audiometer will be calibrated as per standard guidelines. Thresholds will be noted for each octave interval from 0.5, 1, 2, 3, 4, 6, and 8 kHz for AC and from 0.5 to 4 kHz for BC, where indicated.

(viii) **Impedance Audiometry (Tympanometry).** Tympanometry will be done to assess middle ear function and Eustachian tube function, where indicated.

(r) **Grounds of Rejection/ Acceptable standards.** Candidates who suffer from any of the defects mentioned below will be declared unfit. However, any other condition in the ear, nose, throat and neck which is likely to hamper the individual in carrying out his military training/duties or adversely affects his military bearing will also be a cause for rejection.

(s) **Ear.**

(i) **UNFIT.**

(aa) Gross deformity of pinna which hampers wearing of uniform/personal kit/protective equipment or which adversely impacts military bearing.

(ab) Exostosis, Osteoma, Fibrous Dysplasia or any other bony growth in external auditory canal. Assessment of operated cases will be done after a minimum period of 4 weeks. Post surgery histopathology report and HRCT temporal bone will be mandatory. If the histopathological report is suggestive of a neoplasia or HRCT temporal bone is suggestive of partial removal or deep extension it would entail rejection.

(ac) Current Otitis Externa

(ad) Current Otitis Media of any type

(ae) Evidence of healed Chronic Otitis Media in the form of Tympanosclerosis or scarring affecting more than 50% of the Pars Tensa of tympanic membrane (TM)

(af) All cases of Tympanoplasty and Myringoplasty/ Myringotomy for Chronic Otitis Media

(ag) Any residual perforation.

(ah) Any implanted hearing devices such as cochlear implants, bone anchored hearing aids etc, are not acceptable.

(aj) **Deafness due to any cause.** Any reduction less than 610 cm in CV/FW is not acceptable. Wherever PTA is indicated, and thresholds are obtained, the hearing thresholds by air conduction at 500 Hz to 8000 Hz should be 25 dB or better. **Isolated lower thresholds up to 30 dB may be accepted provided the ear is otherwise normal**

(ak) **Peripheral vestibular dysfunction.** History of motion sickness or any evidence or peripheral vestibular dysfunction due to any cause

(ii) **FIT.**

(aa) Tympanic membrane is mobile on pneumatic otoscopy.

(ab) No hearing impairment on the Free Field Hearing Test (CV & FW).

(ac) Pure Tone Audiometric thresholds (where required) are within normal limits.

(ad) Tympanometry shows Type 'A' Tympanogram (where performed).

(ae) Healed Otitis Media in the form of tympanosclerosis involving less than 50% of Pars Tensa with normal PTA and Tympanometry results.

(t) **Nose and Paranasal Sinuses**.

(i) **FIT.**

(aa) Minor deformities of dorsum and nasal tip not interfering with nasal airway

(ab) Asymptomatic anterior (cartilaginous) septal perforation less than 01 cm, provided it is not associated with nasal deformity, nasal crusting, epistaxis and granulation

(ac) In cases of Deviated Nasal Septum (DNS), correction by septoplasty if reviewed four weeks after surgery and provided there is an adequate airway.

(ad) Post-op intranasal adhesions not compromising airway

(ae) Any infection of nose/paranasal sinuses after successful treatment, if there is no evidence of chronic rhino-sinusitis.

(ii) **UNFIT.**

(aa) Gross external deformity of nose causing functional deformity will be rejected if it adversely impacts nasal airway.

(ab) Obstruction to free breathing because of marked septal deviation.

(ac) Nasal polyposis noted during examination or after any surgery for polyposis.

(ad) Atrophic rhinitis.

(ae) Vasomotor rhinitis

(u) **Oral Cavity**

(i) **FIT.** Completely healed oral ulcers and operated cases of mucus retention cyst only after surgery, with no recurrence and benign histology. Such evaluation will be done after a minimum four weeks post-surgery.

(ii) **UNFIT.** All current and operated cases of leukoplakia, erythroplakia, submucous fibrosis, ankyloglossia, oral carcinoma, current oral ulcers/growth, mucus retention cysts and trismus due to any cause is unfit. Cleft palate is not acceptable even after surgery.

(v) **Pharynx**

(i) **FIT.**

(aa) Bilateral symmetrical tonsillar enlargement, provided it is not a cause for persistent dysphagia / odynophagia.

(ab) Post tonsillectomy cases can be reviewed for fitness after 04 weeks post-op. They may be accepted if histology is benign.

(ii) **UNFIT.**

(aa) Any ulcerative/ mass lesion of the pharynx

(ab) Evidence of chronic tonsillitis is a cause for rejection.

(w) **Larynx.** Following defects of Larynx will be declared **UNFIT**: -

(i) Persistent hoarseness, dysphonia, chronic laryngitis, vocal cord palsy, laryngeal polyps, growths.

(ii) Speech defects including stammering

53. **OPHTHALMOLOGY**

(a) **Introduction.** To be declared fit for admission/ commission, the candidate must be in good visual health and free from any disability likely to interfere with the efficient performance of duty in the Armed Forces. Visual defects and systemic ophthalmic

conditions are among the major causes of rejection and hence a thorough and accurate eye examination is of great importance in selecting personnel into the Armed Forces Medical Services.

To reduce inter-observer error and ensure maximum reliability, certain examination techniques are recommended. The examination is to be conducted in the following five stages: -

(i) History and declaration by the candidate.

(ii) Determination of visual acuity for distance and near vision and proper examination to assess colour vision.

(iii) Ocular muscle balance tests.

(iv) Slit Lamp examination.

(v) Fundus examination, fields and other examinations, as required.

(b) **Family and Personal History**

(i) Specific questions should be asked for, to elicit family history of pathological myopia, night blindness, and any other relevant disease.

Personal history should include:

(ii) History of wearing spectacles/contact lenses, duration for which he has been wearing this correction and the number of times the refractive power was changed in the last 2 years.

(iii) History of surgical correction of refractive errors such as

(aa) Photorefractive Keratectomy (PRK)

(ab) LASER in situ keratomileusis (LASIK)

(ac) Small Incision Lenticule Extraction (SMILE)

(ad) Collagen cross-linking

(ae) Phakic IOLs etc.

(iv) History of non-surgical refractive corrections such as Orthokeratology.

(v) History of eyestrain, diplopia, frequent attacks of redness of the eyes, or having difficulty in seeing in the dark.

Method Of Examination

Distant Vision

(c) **Testing conditions.** Distant visual acuity is judged by standard test types, read by each eye separately first, and then together without glasses at 6 meters. Digital, auto-projector charts should be used, if possible. The test type should be illuminated

to the minimum of 10-foot candles (9 - 18W standard company Tube light fitted). If the illumination is less, the visual acuity cannot be assessed correctly. Distance between the candidate and the test type should be exactly 6 meters. The lettering in the test should not be faded and must be against a clear white background. If the examination room is small, Snellen's test type with standard illumination should be fixed to the wall above the seating position of the candidate and a mirror be placed at 3 metres from which the candidate is directed to read the chart.

(d) **Procedure of assessment**

(i) The eye that is not being tested should be occluded with an opaque card without pressure.

(ii) In the Snellen's test type of charts, the distance at which a particular letter should be read by a person with standard vision is given against that letter. For example, if a person at 6 meters can read only the letter that is to be read from 60 meters, his vision is recorded as 6/60. Similarly, 6/36, 6/24, 6/18, 6/12, 6/9 or 6/6 is recorded according to the number on the smallest line read.

(iii) If he cannot even read the largest at 6 meters, the distance is reduced by a meter each time till he can read the top letter. If he reads it at 1 meter, his vision is recorded as 1/60. If his vision is less than 1/60 finger counting close to the face is checked. If even finger counting is not possible, then his ability to recognize hand movement (HM) is recorded.

(iv) If even hand movements are not appreciated then his perception of light (PL) projected from four quadrants is tested and recorded.

(v) Visual acuity should be assessed by all Optotypes of Snellen's chart and randomly to minimize errors in recording vision. To prevent memorizing, the candidate can be asked to read any line in the reverse direction (right to left).

(vi) Astigmatic individuals may be able to read letters indistinctly or may misidentify them because of indistinct images on the retina. There may be a desire to tilt the head to one side for better focus. Such individuals may be tested with cylindrical lens or stenopaic slit.

(vii) In cases where refractive status needs to be assessed, manual retinoscopy under cycloplegia must be performed.

(e) **Common Errors in testing.** Following are the common sources of error in testing distant vision: -

(i) The chart is not 6 meters from the candidate.

(ii) Too much light reduces visual acuity particularly if glare is reflected from the surface of the test type, or if extraneous light enters the candidate's eye.

(iii) The candidate views the chart with both eyes open, or memorizes letters before testing starts.

(iv) The candidate is allowed to read the chart with glasses on before the

unaided acuity is determined.

(v) The candidate or examiner presses on the occluded eye.

(vi) The candidate is allowed to cover his own eye, and peeps from behind the occluder or between his fingers.

(vii) The candidate is allowed to adjust his eye or adopt an unusual head posture.

(viii) Candidates may be wearing fine contact lenses or may have undergone corneal refractive surgeries or orthokeratology which are not detected.

(ix) Insufficient time for the candidate to relax his accommodation prior to making him read the charts.

(x) The examiner's inability to recognize guessing or memorizing on the part of the candidate.

Near Vision

(f) **Standard Test types.** For recording near visual acuity, Snellen's or Jaegers test types are used. The candidate is seated in a chair with good light coming from behind the left shoulder and is asked to hold the card at approximately 33 cm distance and asked to read the words and sentences. The number of the smallest type printed on the card that he can read comfortably is the near vision. It is recorded as NV = N6 (Snellen's), if he reads the smallest print marked 6.

(g) **Colour Vision**

(i) Color perception for entry into Armed Forces Medical Services will be assessed based on Ishihara Charts at SMB and Anomaloscope during AMB and RMB.

(ii) **Methods of Examination and assessment of Colour Vision by Ishihara Book and Anomaloscope.** The book should be held at a distance of 75 cm from the candidate. The test should be carried out in ordinary daylight, but not directly in the sun. Artificial illumination, if used, will be a tube light with daylight filter. No candidate should be rejected unless tested in daylight. Each plate should be shown for 2 to 3 seconds only. Answers given should be noted. Next plate should be shown thereafter. Care should be taken that the charts are not unduly faded or otherwise marked. Candidates should not be allowed to touch the charts. No fixed sequence should be followed to guard against candidates memorizing the book.

(aa) **Color Perception (CP) Pass.** Candidates who read plates 1-17 correctly, view nothing from plates 18-21 and reads plates 22-27 correctly.

(ab) Candidates who are CP Fail will undergo CP testing by Anomaloscope during AMB and RMB. For candidates appearing for RMB at AFMC, testing with Anomaloscope will be carried out at CH(SC). Color Perception defect will be assessed, based on Anomaly Quotient in order to provide quantitative assessment.

Anomaly Quotient	Comments
0.7 to 1.4	Normal range
< 0.7 to 0.1	Protanomaly
>1.4 to ∞	Deuteranomaly

(ac) Only those candidates with Anomaly Quotient between 0.7 to 1.4 will be labelled as CP **PASS.**

(j) **Night Vision**

Night Vision test is not done as a routine. In case the candidate gives family history of night blindness or gives symptoms of night blindness or shows signs suggestive of defective night vision, night vision capacity is tested to rule out organic pathology leading to night blindness. It can be assessed with an electroretinogram if required clinically.

(k) **Ocular Muscle Balance**

This examination is conducted to detect any manifest or Latent Squint.

(i) **Ocular Movements and Head Posture**. The eyes should move fully and normally in all directions, and no diplopia should be elicited in any quadrant. Particular attention should be paid to candidates with torticollis, because to abolish diplopia and maintain binocular single vision, the individual may adopt an abnormal head posture.

(ii) **Nystagmus.** In testing nystagmus, special care should be taken particularly to keep the fixation object inside the normal binocular field of vision. Physiological nystagmus can almost invariably be demonstrated in extreme positions of gaze. Latent nystagmus is demonstrated by covering one eye.

Tests for squint.

(iii) **Hirschberg Test (HBT).** It is used as an initial screening for the evaluation of squint and gives a rough estimate of manifest squint.

(aa) **Procedure.** A pen torch light held at a distance of 33 cm is shone into the eyes of the candidate and he/she is asked to focus at it. The deviation of corneal light reflex from the centre of the pupil is noted in the squinting eye by the examiner.

(ab) **Inferences.** If the corneal light reflex is seen in the centre of the pupil in both eyes, it is orthophoria. If light reflex is seen at the temporal part of cornea from pupillary border to limbus, it is esotropia while if it is seen at nasal part of cornea from pupillary border to limbus, it is exotropia. To estimate the amount of deviation, the position of light reflex is noted, at the border of pupil – 15° deviation, between the border of pupil and limbus – 30° deviation and at or outside limbus – 45° deviation.

(iv) **The Cover-Uncover Test.**

(aa) A pencil and a suitable cover such as a card are required. Both eyes must be tested separately.

(ab) **Technique.** Cover the apparently fixing eye completely. Hold the pencil vertically with the point 33 cm from the candidate's face, between his eyes and level with the root of his nose. Ask the candidate to focus on the tip of the pencil.

(ac) Cover test (Stage 1): When the fixing eye is occluded, the examiner may or may not observe the non-occluded eye move to pick up a fixation. This indicates the presence or absence of any tropia respectively.

(ad) Uncover test (Stage 2): Now, quickly remove the cover, and observe any movement of the previously covered eye. It may not show any movement, or it may move either inwards or outwards. It indicates the absence or presence of any phoria respectively.

(ae) Repeat the same test for distance vision, i.e., at 6m.

Interpretation of Results

(af) If there is no movement of the eyeball either in stage 1 or stage 2 of the test, it indicates that the muscle balance is normal, and fusion is achieved with effort. Such a stage is called orthophoria.

(ag) However, if the movement is inwards or outwards in stage 1, the case is diagnosed to suffer from divergent or convergent squint, respectively.

(ah) If no movement is observed in Stage 1, the cover is removed, and any movement seen in that eye is consistent with a latent squint (phoria).

(aj) Not only the movement but the rate of recovery is also noted. The recovery can be rapid or slow, immediate, or delayed. Now the second eye is tested in similar fashion. The cover test is to be done for distant and near vision separately.

(ak) **Recording of Results**. The degree of movement is recorded by letters 'S' if slight and 'M' if moderate. Second and third letters indicate lateral or medial deviation. Fourth and fifth letters show rate of recovery, and the last two letters indicate whether left or right or both eyes. Slight latent divergence with rapid recovery in both eyes will be recorded as "SLDRRBE"

(v) **Maddox Rod Test.** This test only needs to be done when there is some suspicion in the cover-uncover test and is used to assess and quantify the amount of deviation.

(aa) **Technique and Inferences.** The candidate, wearing a trial frame, is made to sit 6 meters from a spotlight in a dark room. The Maddox rod is placed in one eyepiece of the frame, the other eye being left uncovered. With the rod placed horizontally, a vertical beam of light is seen by one eye while the uncovered eye sees the spotlight. The position of the beam relative to be spotlight is noted, preferably on a scale

graduated in prism dioptres and mounted on the spotlight apparatus.

(ab) To determine horizontal deviation, the rod is placed with grooves horizontally in front of the right eye so as to produce a vertical red line. The left eye fixes a spotlight at 6 meters distance. If the line is seen to the left of the spotlight, it indicates exophoria and if to the right of the light, esophoria. The amount of deviation can be measured by placing prisms of increasing strength in front of the right eye with bases in for exophoria and bases out for esophoria until the red line coincides with the spotlight.

(ac) To determine vertical deviation, the rod is then placed vertically in front of the right eye, so as to produce a horizontal red line, which will pass through the spotlight if there is no vertical imbalance. If the red line is below the spotlight there is right hyperphoria, and if the red line is passing above there is left hyperphoria. The amount of deviation is measured by placing a prism of increasing strength in front of the right eye with bases down for right hyperphoria or up for left hyperphoria until the red light traverses the spot.

(ad) If cyclophoria is present, when the Maddox rod is vertical, the line instead of running horizontally will run obliquely. Degrees through which the rod has to be tilted in order to make the line of light appear vertical, will indicate the amount of torsion. The obliquity is more easily recognized if two Maddox rods are used, one before each eye. Two lines seen are parallel to each other in the absence of cyclophoria. Great care must, of course, be taken that the rods are set vertically or horizontally in the trial frame.

(ae) Instead of using prisms, the test may be used in conjunction with the Maddox tangent scale where the deviation is determined by asking the candidate to observe which number on the scale the red line traverses.

(af) The test should also be done with the spotlight at 33 cm. If the Maddox rod is placed in front of the left eye the interpretation will change accordingly.

(ag) **Recording of results.** To differentiate the two tests, results of the Maddox Rod test at 6 meters and at 33 cm are recorded separately. (Maddox Rod Test 6 m - Exo 2 D, 33 cm - Exo 10 D)

(vi) **Common Errors**

(aa) The candidate shuts one eye.

(ab) The candidate does not relax to focus on the distant spotlight. Too high a degree of esophoria is indicated, which does not match the deviation detected by the cover test.

(ac) Multiple red lines seen. Aberrant light sources are present if the examination room cannot be blacked out, the proper red line should be

indicated by flashing the spotlight on and off a few times. White Maddox Rods are available for use with a red spotlight, aberrant light leaks producing white lines and the spotlight, a red line.

(ad) Falsification by the candidate. Heterophoria candidates who are familiar with the test may declare immediately that the line passes through the light. If following the cover test, this appears unlikely, a prism should be placed in an appropriate direction before the Maddox Rod. If orthophoria is still claimed, a closer check of the candidate's responses is indicated.

(vii) **Worth 4 Dot Test**. It consists of an illuminated box with four apertures for coloured glasses - one red, two green and one white. The candidate at 6 meters distance wears a red glass before right eye and green before left eye, so that he sees red with one eye, green with the other and white with both. If he/she sees four dots (one red, two green and one red-green) he/she has binocularity. If he/she sees five dots (two red and three green) he/she uses both the eyes but has diplopia. If he/she sees two reds, it is left eye suppression and if three greens only, it is right eye suppression.

(viii) **Convergence Tests.** Convergence is divided into two – Objective convergence and Subjective convergence.

(aa) **Objective Convergence.** The assessment of convergence is made without taking the help of the individual under examination. It is more reliable and more quickly done.

(ab) **Subjective Convergence.** In assessment of subjective convergence, the assistance of the candidate is taken and it is a good corroborative finding to objective convergence. The test requires a special instrument called RAF rule.

(ac) **Measurement.** Both objective and subjective convergence can be measured by RAF Near Point Rule.

(ad) **Objective Convergence.** On the RAF rule, there is a scale with an attachment, a small box with a black dot on white background. The instrument is placed over the infra orbital margin and the candidate is asked to keep looking at the black dot. The box is then moved towards his nose and the examiner watches the ocular movements of the candidate. The point where one of the two eyes stops moving inwards or suddenly shoots out is taken as the point of convergence. The pointer reading on the scale is noted and is expressed as - convergence: 8 cm. If the reading is very high e.g., beyond 11 to 12 cm, the test should be repeated after explaining to the individual what is required of him/her.

(ae) **Subjective Convergence**. Same technique as above but in this test, the candidate is asked to indicate when the dot becomes doubled and that point is considered the point of convergence.

(ix) **Measurement of Accommodation.** On the RAF rule, there is a scale

with an attachment, a small box with black letters/ numbers on white background. The instrument is placed over the infra orbital margin and the candidate is asked to keep looking at the letters/ numbers. The box is kept 20 cm away and he/she is instructed to read letters. Then the box is moved towards the nose and the candidate is instructed to keep looking at the letters and inform the examiner when the letters start blurring. It is denoted as — Accommodation Rt Eye: 12cm, Lt Eye: 12cm. To confirm the above, the box is then moved from the nearest position to the eye to the far end with instruction to the candidate to inform the examiner when he/ she can read letters.

(x) **Slit Lamp Examination of the Eyes and their Adnexa**

(aa) **External Examination**. In external examination, where magnification is required, the examiner should use a Slit-lamp bio-microscope and in case of non-availability, a Corneal loupe or an Ophthalmoscope with a plus 20-dioptre lens in the aperture.

(ab) **Lids, lashes and lacrimal apparatus.** Any ptosis, eyelid dysfunctions or abnormal condition of the lacrimal apparatus should be noted.

(ac) **Conjunctiva.** The bulbar and palpebral conjunctiva, including the fornices, should be examined for signs of hyperaemia, infection or growth.

(ad) **Cornea and Anterior Chamber**. The presence of corneal opacities, vascularization, radial scars or scars of operations should be carefully noted. Depth and contents of the anterior chamber should also be noted. Also look if the individual is wearing contact lenses including tinted contact lenses.

(ae) **Iris and Pupils**. Any abnormality of colour or configuration of the iris, or signs of past iritis should be noted. Any inequality of the pupils should be noted, e.g., mydriasis, miosis, or irregularity due to posterior synechiae. Any abnormal reaction to light or accommodation/convergence should also be noted. Pupils should be equal, circular, moderate in size and react to light promptly.

(af) **Lens.** The presence of any lenticular opacities, if present, must be noted along with their number and location.

(xi) **Fundus Examination**

(aa) Ophthalmoscopic examination by direct ophthalmoscope/slit lamp biomicroscopy using 78/90 D lens is carried out to exclude any abnormality in the fundus and media.

(ab) The normality of the disc and the vascular pattern in the disc and its edges, C:D ratio, papilledema or colour change in and around the disc and pigmentary changes elsewhere provide valuable clues to various systemic diseases and must be carefully noted. Any abnormal vascular pattern, macular scarring, haemorrhages or exudates in the retina will be noted.

(xii) **Visual Fields.** Visual fields must be normal when examined by hand movements, i.e., confrontation method, each eye being tested separately, as it fixes the eye of the examiner. In case of doubt, automated perimetry or any other test, as felt appropriate, by the examining authority will be carried out.

(l) **Declaration by Candidate.** All candidates reporting for medical examination will give an undertaking confirming the following:

(i) History of any kerato-refractive corrective procedure carried out. If yes, details thereof.

(ii) Whether the individual or his/her parents suffer from night blindness.

(m) **Visual Standards**

(i) Visual standards for entry into Armed Forces Medical Services as Officers/ cadets will be as per the standards promulgated as under.

(ii) Visual standards for males and females will be the same for the specific category of cadets or Officers. For all categories, Best Corrected Visual Acuity will be 6/6 for each eye.

(iii) After any extra-ocular surgery, a symptom free period of minimum 03 months is admissible. However, after LASIK or equivalent keratorefractive correction procedures, a minimum of 12 months is required.

(iv) **Visual standards for Cadet entry into AFMC and MNS.** Colour vision permitted will be CP Pass on Ishihara. Visual standards will be as follows:

(aa) Uncorrected VA 6/36 & 6/36; BCVA 6/6 & 6/6.

(ab) Myopia ≤ -3.50 D Sph, including max astigmatism ≤ +/- 2.0 D Cyl.

(ac) Hypermetropia ≤ +3.50 D Sph, including max astigmatism ≤ +/- 2.0 D Cyl.

LASIK & equivalent.

(ad) Not Permitted - in candidates less than 20 years of age.

(ae) Permitted - in candidates in whom surgery has been done at age of more than 20 years provided the acceptable standards of LASIK laid down as per para 53(m) (vii) are fulfilled.

(af) Colour vision - CP Pass

(v) **Visual standards for Civilian MBBS graduates seeking admission in AFMS institutes (Priority V candidates).**

(aa) Uncorrected VA 3/60 & 3/60; BCVA 6/6 & 6/6.

(ab) Myopia ≤ -5.50 D Sph, including max astigmatism ≤ +/- 2.0 D Cyl.

(ac) Hypermetropia ≤ +3.50 D Sph, including max astigmatism ≤ +/-

2.0 D Cyl.

(ad) LASIK & equivalent permitted provided the acceptable standards of LASIK laid down as per para 53(m) (vii) are fulfilled.

(ae) Colour vision - CP Pass by Ishihara

(vi) **Visual standards for Officer entry into AMC/ADC/MNS.**

(aa) Uncorrected VA 3/60 & 3/60; BCVA 6/6 & 6/6.

(ab) Myopia ≤ -5.50 D Sph, including max astigmatism ≤ +/- 2.0 D Cyl.

(ac) Hypermetropia ≤ +3.50 D Sph, including max astigmatism ≤ +/- 2.0 D Cyl.

(ad) LASIK & equivalent permitted provided the acceptable standards of LASIK laid down as per para 53(m) (vii) are fulfilled.

(ae) Colour vision - CP Pass by Ishihara

(vii) **LASIK or Equivalent**. In order to be made Fit, the following criteria will have to be met: -

(aa) Age more than 20 yrs at the time of surgery.

(ab) Minimum twelve months post LASIK.

(ac) Central corneal thickness equal to or more than 450 µ.

(ad) Axial length by IOL master equal to or less than 26 mm.

(ae) Residual refraction of equal to or less than +/- 1.0 D including cylinder (if acceptable for category applied for).

(af) Normal healthy retina.

(ag) LASIK and equivalent procedures will be permitted. However, procedures like Radial Keratotomy or equivalent will be permanently unfit.

(ah) Any candidate who has undergone any Kerato-refractive procedure will have to produce a certificate from the centre where he/she has undergone the procedure specifying the date and type of surgery.

(n) **Acceptable Standards/ Grounds of Rejection.** Candidates who suffer from any of the ocular diseases will be dealt as described in the succeeding paragraphs.

Lids and Adnexa

(i) **Lid disorders**

(aa) **FIT**
Mild ptosis not affecting vision/visual field in day or night.
Clear Visual axis
No sign of aberrant degeneration/ head tilt

(ab) Post op cases of Ptosis will be considered Fit provided there is no recurrence one year after surgery, visual axis is clear with normal visual fields and upper eyelid is 02 mm below the superior limbus.

(ac) **UNFIT.** Any defect or deformity of the lids or other disorders affecting eyelid function, including ptosis, sufficient to interfere with vision, require head posturing, or impair protection of the eye from exposure.

(ii) **Entropion/ Ectropion**

FIT. Mild ectropion and entropion not hampering day to day functioning in anyway.

UNFIT. All other cases of ectropion and entropion.

(iii) **Naso-Lacrimal Occlusion**

FIT. Candidate with symptom free period of at least 12weeks after surgery for naso-lacrimal occlusion.

UNFIT. Symptomatic with Epiphora/ Mucocele.

(iv) **Conjunctiva**

UNFIT. All cases of pterygium.

(v) **Cornea**

FIT. Small nebular corneal opacity in the periphery not affecting the vision or visual field.

UNFIT

(aa) Any corneal dystrophy or degeneration or current or recurrent keratitis.

(ab) Corneal opacification from any cause that is progressive or reduces vision.

(ac) Keratoconus

(vi) **Lens**

FIT. Small stationary lenticular opacities in the periphery like congenital Blue Dot cataract not affecting the visual axis/visual field (should be less than ten in number and central area of 04mm to be clear).

UNFIT.

(aa) Any lenticular opacity causing visual deterioration, or is in the visual axis or is present in an area of 07 mm around the pupils, which may cause glare phenomenon, should be considered Unfit. The propensity of the opacities not to increase in size or number should also be a consideration when deciding fitness.
(ab) Candidates who have undergone cataract surgery with or without IOL implantation.

(vii) **Pupil**

UNFIT.

(aa) Any abnormal pupillary reaction to light or accommodation.

(ab) Anisocoria. If size difference between the pupils is>01mm

(ac) Heterochromia irides

(viii) **Uvea**

UNFIT. Any type of active or healed uveitis (iritis/ iridocyclitis/ choroiditis).

(ix) **Retina**

FIT.

(aa) A small healed chorioretinal scar in the retinal periphery not affecting the vision and not associated with any other complication.

(ab) Single circumferential lattice without holes of less than two clock hours in either or both eyes

(ac) Two circumferential lattices without holes each being less than one clock hour in extent in either or both eyes

(ad) Post Laser delimitation single circumferential lattice, without holes/ flap tear, less than two clock hours extent in either or both eyes

(ae) Post Laser delimitation two circumferential lattices, without holes/ flap tear, each being less than one clock hour extent in either or both eyes

UNFIT.

(aa) Single circumferential lattice extending more than two clock hours in either or both eyes.

(ab) Two circumferential lattices each more than one clock hour in extent in either or both eyes.

(ac) Radial lattices

(ad) Any lattice with atrophic hole/ flap tears (Un-lasered)

(ae) Lattice degenerations posterior to equator

(af) Any lesion in the central fundus.

(ag) Night blindness: Certificate to be signed by the candidate.

(x) **Optic Nerve & High Cup-Disc Ratio**

UNFIT

(aa) Candidates with signs suggestive of current or sequelae of Optic nerve inflammation/ swelling or optic atrophy.

(ab) Inter-eye cup-disc ratio asymmetry of >0.2

(ac) Retinal Nerve Fibre Layer (RFNL) defect seen by RNFL analysis on OCT

(ad) Visual Field Defect detected by Visual Field Analyzer

(ae) Optic Nerve Drusen

Ocular Mobility and Motility

(xi) **Nystagmus**

(aa) **FIT**. Cases of physiologic nystagmus.

(ab) **UNFIT.** All other cases of nystagmus.

(xii) **Squint**

FIT. Small horizontal latent squint/ phoria i.e., Exophoria/ Esophoria along with Grade III BSV

UNFIT.

(aa) All other cases of squint.

(ab) Hyperphoria/ Hypophoria and Cyclophoria.

(ac) Exotropia

(xiii) **Objective Convergence.** It should be less than or equal to 10 cm. If convergence insufficiency found, convergence test to be done as laid down:

(aa) Convergence Test. One of the two eyes is to be patched for 30 min and the RAF rule test is to be done after 30 min of patching. If after patching, the individual has convergence more than 10 cm, the candidate will be considered **UNFIT.**

(ab) The above procedure is to be done during the appeal medical board and need not be done during initial Medical Examination.

(xiv) **Accommodation.** It should be less than or equal to 12 cm for young individuals (less than 40 yrs of age at time of entry).

(xv) **Binocular Single Vision (BSV).** Grade-III.

(xvi) **Visual Fields.** To be tested by the confrontation method. Only suspicious cases to be tested on an Automated Field Analyser and in addition, Intraocular Pressure measurement (by GAT), RNFL thickness and other appropriate tests as required, to be done.

SECTION – 5

MEDICAL EXAMINATION OF WOMEN CANDIDATES

54. MEDICAL EXAMINATION OF WOMEN CANDIDATES

(a) General methods and principles of medical examination of women candidates will be the same as for male candidates. However, special points pertaining to Medical Examination of women candidates are given in succeeding paragraphs.

(b) A detailed menstrual and Gynecological history in the form of a questionnaire is to be obtained from the candidate.

(c) A detailed physical and systemic examination will be carried out of the candidate, and she should be examined preferably by a Lady Medical Officer or a Lady Gynecologist.

(d) The examination must include the following inspections: -

(i) External genitalia.

(ii) Hernial orifices and the perineum.

(iii) Any evidence of stress urinary incontinence or uterine prolapse outside introitus.

(e) All married candidates will be subjected to speculum examination for any prolapse or growth on cervix or vagina. In all unmarried women candidates, speculum or per vaginal examination will not be carried out.

(f) Ultrasound scan of the abdomen and pelvis is mandatory in all women candidates during the initial Medical Examination.

(g) Any abnormality of external genitalia will be considered on merits of each case. Significant hirsutism with score equal to or more than 8 by Ferriman-Gallaway score especially with male pattern of hair growth along with radiological evidence of PCOS, will be a cause for rejection.

(h) Following conditions will entail women candidates being **declared Unfit**:

(i) Primary or unexplained secondary amenorrhea

(ii) Severe Menorrhagia lasting for more than 7 days.

(iii) Severe dysmenorrhea necessitating absence from work / study.

(iv) Stress urinary incontinence

(v) Congenital elongation of cervix or prolapse which comes outside the introitus even after corrective surgery.

(vi) **Pregnancy and MTP**.

(aa) A lady candidate can be assessed for fitness 24 weeks after an uncomplicated vaginal delivery.

(ab) The lady candidate can be considered for fitness 52 weeks following a Caesarean Section.

(ac) The lady candidate will be considered fit 12 weeks after an MTP/abortion.

(vii) Complex ovarian cyst of any size except hemorrhagic corpus luteum cyst of 3 cm or less.

(viii) Simple ovarian cyst more than 6 cm.

(ix) Endometriosis and Adenomyosis.

(x) Submucous fibroid of any size.

(xi) Broad ligament or cervical fibroid of any size causing pressure over the ureter.

(xii) Fibroid uterus. Single fibroid uterus more than 30 mm in diameter, two fibroids (each fibroid more than 20mm in diameter or totaling more than 40mm in size), more than two fibroids in number or any fibroid causing distortion of endometrial cavity.

(xiii) Congenital uterine anomalies except arcuate uterus.

(xiv) Acute or chronic pelvic infection evidenced by hydrosalpinx or adnexal mass.

(xv) Disorders of sexual differentiation or transgender.

(j) Following conditions will be **declared as FIT**: -

(i) Unilocular clear ovarian cyst up to six cm.

(ii) Minimal fluid in pouch of Douglas.

(k) Medical fitness after laparoscopic surgery or laparotomy.

(i) Candidates reporting after undergoing laparoscopic cystectomy or myomectomy can be assessed for fitness 12 weeks after surgery if the wound has healed well and she is asymptomatic, ultrasound pelvis is normal, histopathology of tissues removed is benign and per operative findings are not suggestive of endometriosis.

(ii) Candidates who have undergone surgery for malignancy will be declared unfit.

(iii) Candidates will be considered FIT following laparotomy after 24 weeks from the date of surgery.

55. **Lump Breast**

UNFIT

(i) Fibroadenoma size > 3 cm on USG in maximum dimension -UNFIT

(ii) Multiple breast lumps.

(iii) Any nipple discharge

(iv) Pathological nipple retraction/inversion/erosion

FIT

(v) After surgery with no recurrence/residual lump breast and histopathology report confirmatory of benign disease.

SECTION – 6

DENTAL FITNESS STANDARDS

56. **General instructions for Recruiting Medical Officer and Dental Officer**

(a) **Examination protocol.**

(i) Responsibility of completing recruitment medical examination rests with the Recruiting Medical Officer (Rtg MO). It is therefore vital that the Rtg MO is well versed with the basic dental anatomy, normal occlusion and departures from it.

(ii) All 'FIT' candidates will be disposed by the Rtg MO. All UNFIT cases, on appeal, will be referred to the nearest dental est. Dental Officer (DO) will carry out the requisite examination as per guidelines laid down in these instructions.

(iii) Care should be taken to reduce service liability by limiting the entry of candidates with conditions that are progressive, recurrent, potentially malignant or those that may be sought to be corrected for other than functional reasons.

(iv) Examination should be done in a well-lit room as per the sequence elucidated in the succeeding paras. The following instruments are advised to be used for intra oral examination: -

(aa) Intra oral mouth mirror with handle

(ab) Dental explorer

(ac) A good quality hand torch

(b) **Award of dental points.** A total of minimum 14 points will be required for fitness provided the following teeth are present in the upper jaw in good functional apposition to the corresponding teeth in the lower jaw: -

(i) Any 4 of the 6 anterior

(ii) Any 6 of the 10 posterior

(c) **General explanatory notes.**

(i) Anterior teeth - Incisors and canines.

(ii) Posterior teeth - Pre molars and molars

(iii) Each incisor, canine 1st and 2nd premolar will have a value of one point provided their corresponding opposite teeth are present.

(iv) Each 1st, 2nd, and 3rd molar will have the value of two points, provided they are in good apposition to corresponding teeth in the opposing jaw.

(v) In case of 3rd molar is not well erupted; it will have a value of one point only.

(vi) When all the 16 teeth are present in the upper jaw and in good functional apposition to corresponding teeth in the lower jaw, the total value will **be 22 points.**

(vii) All removable dental prostheses will be removed during intra oral examination and will not be awarded any dental points. In the case of ex-serviceman applying for re-enrolment, dental points will be awarded for removable dental prosthesis.

(d) **Candidates reporting post maxillofacial surgery/maxillofacial trauma.**

Candidates who undergo cosmetic or post-traumatic maxillofacial surgery/trauma will be UNFIT for at least 24 weeks from the date of surgery/injury, whichever is later. After this period, if there is no residual deformity and functional defect, they will be assessed as per criteria laid down.

57. **Sequence of examination for reference by Recruiting Medical Officers**

(a) **Extra oral examination.**

(i) **Gross facial examination.** Presence of any gross asymmetry or soft/hand tissue defects and pathological condition of the jaws will be made unfit.

(ii) **Functional examination.**

(aa) **Temporomandibular Joint**. TMJs will be bilaterally palpated for tenderness and/or clicking. Candidates with symptomatic clicking and/or tenderness or dislocation of the TMJ on wide opening will be **declared unfit.**

(ab) **Mouth Opening**. A mouth opening of less than 30 mm measured at the incisal edges will be **declared unfit.**

(b) **Intra oral examination.**

(i) **Teeth.** Number of teeth present is to be counted for award of points as mentioned above. Points will not be awarded in case of the following:

(aa) **Dental Caries**. Teeth with caries that have not been restored or teeth associated with abscesses and /or sinuses will not be counted for award of dental points.

(ab) **Restorations.** Teeth having **inadequate restorations** will not be awarded dental points.

(ac) **Mobile teeth. Mobile teeth will not be awarded dental points.**

(ad) **Retained deciduous teeth. Retained deciduous teeth will not be awarded dental points.**

(ae) **Morphological Defects. Teeth with gross structural defects will not be awarded dental points.**

(ii) **Periodontium.** The condition of gums, should be healthy.

(iii) **Malocclusion. Candidates with malocclusion affecting masticatory efficiency and phonetics will be declared unfit.** Teeth in open bite will not be awarded dental points as they are not considered to be in functional apposition. Candidates having an **open bite or reverse overjet will be declared UNFIT.**

(iv) **Hard & Soft tissues**. Soft tissues of cheek, lips, palate, tongue ad sublingual region and maxilla/mandibular bony apparatus must be examined for any swelling, discoloration, Ulcers, scars, white patches, sub mucous fibrosis etc. Individual with any hard or soft tissue lesion **will be declared UNFIT.**

(v) **Orthodontic appliances.** Candidates wearing fixed or removable orthodontic appliances will be declared **UNFIT**.

(c) **Implants/Fixed Partial Dentures (FPD)/Implant Supported FPDs** will not be awarded any dental points.

58. **Sequence of examination for reference by Dental Officers.** DO will assess all cases referred by the Rtg MO as per the guidelines elucidated in the succeeding paras: -

(a) Cases will be assessed using clinical examination and diagnostic aids, as deemed necessary, for providing a thorough professional opinion on the case. Dos must familiarise themselves thoroughly with the existing recruiting standards and exercise due caution before declaring a candidate unfit to avoid rejections being overturned during RMB, as far as possible.

(b) If any additional condition that renders the candidate dentally unfit, other than that for which the candidate has been declared unfit by the Rtg MO, is observed during the course of examination by the DO, it will be endorsed in the Medical Examination Form.

(c) **Extra oral Examination.**

(i) **Gross facial examination.** Candidates must be seated upright in a chair. Any gross asymmetry, soft or hard tissue defects/scars must be noted. If present, relevant history must be elicited. Congenital malformations must be clearly identified and any progressive co-morbidity is to be noted. Candidates with incipient pathological conditions of the jaws, which are known to be progressive or recurrent, will be declared unfit. Significant jaw discrepancies between upper and lower jaw which may hamper efficient mastication and/or speech will render the candidate **UNFIT**.

(ii) **Functional examination.** Candidates will be asked to open the mouth fully TMJs will be bilaterally palpated for tenderness and/or clicking. Candidates with symptomatic clicking and tenderness will be declared unfit. A mouth opening of less than 30 mm measured at the incisal edges will render the candidate unfit Dislocation of the TMJ on wide opening will render the candidate **UNFIT**.

(d) **Intra oral examination.**

(i) **Teeth.**

(aa) **Dental Caries** Carious teeth with broken down crowns, pulp exposure, residual root stumps, teeth with contiguous abscesses, sinuses will not be counted for award of dental points.

(ab) **Restorations.** The DO will judge the soundness of restorations and award points accordingly. Teeth restored by use of inappropriate materials, temporary or fractured restorations and restorations with doubtful marginal integrity or peri-apical pathology will not be counted for award of dental points.

(ac) **Loose teeth.** Teeth with clinically demonstrable mobility will not be counted for award of dental points. Periodontally splinted teeth will not be counted for award of dental points.

(ad) **Retained deciduous teeth.** Retained deciduous teeth will not be awarded dental points.

(ae) **Morphological Defects.** Teeth with developmental defects or any pathological condition of teeth which compromise efficient mastication will not be awarded dental points.

(ii) **Periodontium.**

(aa) The periodontal health of the teeth included for counting dental points should be satisfactory. Clinical parameters such as colour, contour, consistency, texture, etc should be examined.

(ab) Individual teeth with localised periodontitis will not be awarded dental points.

(ac) Candidates with severe periodontal disease will be declared unfit. If periodontal disease is not severe and the teeth are otherwise sound, the candidate may be accepted if in the opinion of the DO he/she can be cured by simple periodontal therapy excluding extraction.

(e) **Malocclusion.** Any malocclusion of teeth like excessive overjet, reverse overjet will be assessed with respect to masticatory efficiency, phonetics and performance of duties. If malocclusion of teeth is in the opinion of the dental officer not hampering efficient mastication, phonetics, maintenance of oral hygiene or general nutrition or performance of duties efficiently then candidates will be declared **FIT**. Otherwise, reasons for rejection for malocclusion will be specified. The following criteria will be considered in assessing malocclusion: -

(i) **Edge to edge bite**. Edge to edge bite will be considered as functional apposition and awarded dental points.

(ii) **Anterior open bite**. Anterior open bite is to be taken as lack of functional apposition of involved teeth and render the candidate **UNFIT**.

(iii) **Cross Bite**. Posterior Teeth in cross bite may still be in functional occlusion and may be awarded points.

(iv) **Traumatic Bite**. Anterior teeth involved in a deep impinging bite which is causing traumatic indentations on the palate will not be counted for award of points and render the candidate **UNFIT**.

(f) **Hard & soft tissues.** Soft tissues of cheek, lips, palate, tongue and sublingual region must be examined for any swelling, discoloration, white patches, sub mucous fibrosis, ulcers, scars etc. All potentially malignant lesions will be cause for rejection. Clinical diagnosis for sub mucous fibrosis with or without restriction of mouth opening will render the candidate unfit. Bony lesion(s) will be assessed for their pathological nature and commented upon accordingly.

(g) **Orthodontic appliances**. Fixed orthodontics lingual retainers will not be considered as periodontal splints and teeth included in these retainers will be awarded points for dental fitness. Candidate wearing active fixed or removable orthodontic appliances will be declared **UNFIT**.

(h) **Implants**. Implants and Implant Supported Prosthesis will not be awarded any dental points.

(j) **Fixed Partial Dentures (FPD) / Implant supported FPDs.** FPDs will be assessed clinically and radiologically for firmness, functional apposition to opposing teeth and periodontal health of the abutments. If all parameters are found satisfactory, dental points will be awarded for the natural tooth (abutments).

Note: Any prosthesis removable / fixed or implant borne, the natural tooth/teeth in that component will be awarded dental points.