



Post Graduate Medical Diploma (Part-I)
Diploma in Ophthalmic Medicine and Surgery (DOMS)
Paper-I
(Multiple Choice Questions)
MODEL PAPER

Signatures of Candidate

Roll No.

Total Marks: 100
Time Allowed: 2 hours

Instructions:

- i. Read the instructions on the MCQ Response Form carefully.
- ii. Attempt **all** questions.
- iii. Question Paper to be returned along with MCQ Response Form.
- iv. Candidates are strictly prohibited to give any identification mark except Roll No. & Signatures in the specified column only.

- Q.1 The anterior and posterior chamber of the eye are separated by:**
a) Anterior Lens capsule
b) Posterior Lens capsule
c) Iris diaphragm
d) Aqueous humour
e) Anterior Vitreous
- Q.2 The normal corneal diameter in adults ranges between:**
a) 10-11 mm
b) 11-12 mm
c) 12-13 mm
d) 13-14 mm
e) 09-10 mm
- Q.3 Which of the following nerve is not a motor nerve to extra ocular muscles?**
a) 3rd cranial nerve
b) 6th cranial nerve
c) 7th cranial nerve
d) 4th cranial nerve
e) 5th cranial nerve
- Q.4 The globe is less protected hence vulnerable to injury from:**
a) Superiorly
b) Laterally
c) Inferiorly
d) Medially
e) Posteriorly
- Q.5 The normal field of vision superiorly is:**
a) 90 degrees.
b) 60 degrees.
c) 50 degrees.
d) 45 degrees.
e) 70 degrees.
- Q.6 The tear film consist of following except:**
a) Lipid.
b) Mucus.
c) Salts.
d) Water.
e) Glucose.
- Q.7 The weakest bony orbital wall is:**
a) Lateral.
b) Medial.
c) Floor.
d) Roof.
e) Optic canal.
- Q.8 Which of the following is an essential nucleus for pupillary light reflex:**
a) Central grey matter.
b) 3rd cranial nerve.
c) Edinger Westphal nucleus.
d) Pontine nuclei.
e) Pretectal nucleus.
- Q.9 The main veins draining the choroids is:**
a) Orbital veins.
b) Vortex veins.
c) Posterior ciliary veins.
d) Central retinal vein.
e) None of the above.
- Q.10 Which of the following is not the blood supply to the optic nerve?**
a) Short posterior ciliary arteries.
b) Central retinal artery.
c) Middle meningeal artery.
d) Anterior cerebral artery.
e) Ophthalmic artery.
- Q.11 Para sympathetic nerve supply to ciliary ganglion travels along:**
a) Nerve to inferior oblique.
b) Nerve to inferior rectus.
c) Sympathetic supply to eyeball.
d) Nerve of pterygoid canal.
e) Supra ciliary nerve.
- Q.12 All the following bones form part of orbit except:**
a) Greater wing of sphenoid.
b) Frontal bone.
c) Maxillary bone.
d) Zygomatic bone.
e) Nasal bone.

(Continued)

- Q.13 Following structure does not pass through annulus tendinosus:**
a) Optic nerve. d) Nasociliary nerve.
b) Trochlear nerve. e) Ophthalmic artery.
c) Abducent nerve.
- Q.14 Pupil reflex fibres pass from retina to Edinger Westphal nucleus:**
a) Directly. d) Superior colliculus.
b) Via visual cortex. e) Via frontal gaze center.
c) Via hypothalamus.
- Q.15 Retinal blood supply is derived:**
a) Only from central retinal artery. d) From anterior communicating.
b) Only from choroidal arteries. e) None of the above.
c) From ophthalmic artery.
- Q.16 The change unlikely to occur in eyes during the near vision is:**
a) Contraction of ciliary muscles. d) Discharge of impulses along
b) Constriction of pupil. parasymphathetic nerves.
c) Convergence of eye balls. e) Stimulation of symphathetic nerves.
- Q.17 Parallel light rays from the object are focused in front of the retina in:**
a) Axial hyperopia. d) Refractive hyperopia.
b) Astigmatism. e) Presbyopia.
c) Axial myopia.
- Q.18 A middle aged man is diagnosed to have a pituitary tumor damaging the center of the optic chiasma. The type of hemianopia in this man will be:**
a) Binasal. d) Nasal.
b) Bitemporal. e) Temporal.
c) Homonymous.
- Q.19 When all the three types of cones are stimulated equally and simultaneously, the color perceived will be:**
a) Black. d) White.
b) Brown. e) Yellow.
c) Orange.
- Q.20 A young man consulted the ophthalmologist with the complaint that he was able to see but could not interpret what was being seen. He was diagnosed to have word blindness. He was most likely to have lesion in:**
a) Lateral geniculate body. d) Primary visual cortex.
b) Optic chiasma. e) Visual association area.
c) Optic tract.
- Q.21 The cortical area involved in the control of voluntary eye fixation is:**
a) Angular gyrus. d) Visual association area.
b) Frontal eye field. e) Wernicke's area.
c) Primary visual area.
- Q.22 When the pupil is dilated, there is decreased:**
a) Amount of light falling on the retina. d) Depth of focus of the image.
b) Chromatic aberrations. e) Spherical aberrations.
c) Breakdown of rhodopsin.
- Q.23 The corneal reflex pathway involves:**
a) Brain stem. d) Optic nerve.
b) Lateral geniculate body. e) Lacrimal nerve.
c) Cerebral cortex.
- Q.24 Corneal metabolism depends on oxygen derived predominantly from:**
a) Aqueous humor. d) Limbal vasculature.
b) Atmosphere. e) Tear film.
c) Iris.
- Q.25 The lens derives most of its energy from:**
a) Anerobic glycolysis. d) Oxidation of amino acids.
b) Hexose monophosphate pathway. e) Oxidation of ketone bodies.
c) Oxidation of lipids.
- Q.26 Drainage of the lacrimal fluid into the nasolacrimal duct is promoted by mainly:**
a) Blinking. d) Gravity.
b) Capillarity. e) Venturi effect.
c) Bernoulli's principle.
- Q.27 To enhance the visual contrast, the horizontal cell in the retina produce:**
a) Convergence. d) Lateral excitation.
b) Divergence. e) Summation.
c) Lateral inhibition.

- Q.28 In the physiology of aqueous humour production, which of the following energy dependant process is involved?**
 a) Osmosis. d) Bulk flow
 b) Active transport e) All of above.
 c) Simple diffusion
- Q.29 Accommodation:**
 a) Results from Ciliary muscles relaxation d) More light can reach retina
 b) Is associated with constriction of pupil e) Is due to sympathetic stimulation
 c) Associated with divergence of eyes
- Q.30 Stereopsis:**
 a) Requires bifoveal fixation d) Is not a feature of binocular vision.
 b) Is fully developed at birth e) Is normal in squints
 c) Is a function of extra ocular muscles.
- Q.31 Which of the following bacteria most commonly involves in acute dacryocystitis?**
 a) Streptococci d) Hemophilus Influenzae
 b) Staphylococci e) Pseudomonas aeruginosa
 c) Pneumococci
- Q.32 Which of the following is not a cause of viral keratitis?**
 a) Herpes Simplex d) Measles Virus
 b) Herpes Zoster e) Toxoplasma
 c) Adenovirus
- Q.33 An old gentleman diagnosed to have open angle glaucoma was waiting for the treatment to be started. Which of the following is the usual pathological change in open angle glaucoma is the cause of increased intra ocular pressure:**
 a) Susceptible optic nerve head. d) Sclerosis of episcleral vein.
 b) Susceptible ganglion cell of retina. e) Narrowing of angle of anterior chamber.
 c) Sclerosis of trabeculus membrane.
- Q.34 Toxocariasis is caused by:**
 a) Toxocara cati. d) Toxocara canii.
 b) Toxoplasma gondii. e) Chlamydia.
 c) Toxoplasma cati.
- Q.35 A Youngman developed painful eye (left). Clinical sign revealed dendritic pattern corneal ulcer with typical branching pattern. What do you think is the possible aetiology implicated in it?**
 a) Herpes zoster. d) Picorna virus.
 b) Herpes simplex. e) CMV.
 c) Streptococcus viridans.
- Q.36 A change of one type of adult cell by another type is**
 a) Metaplasia d) Dysplasia
 b) Anaplasia e) Carcinoma
 c) Hypertrophy
- Q.37 Trachoma is caused by:**
 a) Cocci. d) Fungi.
 b) Chlamydia. e) Viruses.
 c) Bacilli.
- Q.38 Following bacteria penetrate intact epithelium:**
 a) Gonococcus. d) Tubercle bacillus.
 b) Pneumococcus. e) Aspergillus.
 c) Diplococcus.
- Q.39 Resistance to infection inside the eye is low because of:**
 a) Low temperature. d) Easy metastasis.
 b) High pressure. e) Very high metabolism.
 c) No direct blood supply.
- Q.40 Regarding retinoblastoma the most common route of spread is:**
 a) Via optic nerve. d) Direct scleral extension.
 b) Ciliary vessels. e) Vortex veins.
 c) Lymphatics.

(Continued)

- Q.41 A peculiar feature of choroidal melanoma is:**
- a) Grows very fast.
 - b) Metastasizes very early.
 - c) Cells are loosely arranged.
 - d) Is not dangerous.
 - e) Metastasis can appear after 15 years.
- Q.42 A young girl of 20 had a recurrence of chalazion at the site of previous operation. The surgeon should be careful because:**
- a) It shows residual chalazion.
 - b) It shows infection at site of chalazion.
 - c) It could be a sebaceous cell carcinoma.
 - d) It shows necrosis at site of previous operation.
 - e) There is no reason to worry.
- Q.43 Herpes simplex infection recurs because:**
- a) The patient becomes immunocompromised.
 - b) The virus resides safely in sensory trigeminal ganglion.
 - c) Local acyclovir kills virus only in eye.
 - d) Of poor hygiene.
 - e) Water supply of the area is infected.
- Q.44 Infection of orbit is very dangerous because:**
- a) It is caused by virulent organisms.
 - b) It immediately stops blood supply of eyeball.
 - c) It can spread to brain.
 - d) Drugs are ineffective.
 - e) It causes severe pain.
- Q.45 Orbital cellulites in infants is caused by spread of infection from:**
- a) Maxillary sinus.
 - b) Blood.
 - c) Frontal sinus.
 - d) Ethmoid sinus.
 - e) Sphenoid sinus.
- Q.46 Which of the following is a feature of candida induced keratitis:**
- a) Severe circumcorneal congestion.
 - b) Exuberant mucopurulent discharge.
 - c) Very little corneal haze around the abscess.
 - d) Painful eye.
 - e) Marked puffiness of eye.
- Q.47 Basal cell carcinoma only spreads locally and does not metastasize because:**
- a) The cells are tightly packed.
 - b) Blood supply is low.
 - c) The growth of tumour is slow.
 - d) It occurs only in old age.
 - e) There is no lymphatic supply.
- Q.48 Keratin pearls is a feature of:**
- a) Sebaceous cell carcinoma.
 - b) Basal cell carcinoma.
 - c) Squamous cell carcinoma.
 - d) Rhabdomyosarcoma.
 - e) Tubercloid reaction.
- Q.49 A corneal graft in a vascularized cornea is more liable to get rejected because:**
- a) Healing process is slow.
 - b) The diseased cornea does not accept a donor graft.
 - c) The disease is transmitted into the graft.
 - d) Immune cells reach the graft via blood flow.
 - e) Tear film is low due to conjunctival scarring.
- Q.50 In sympathetic ophthalmia due to eye injury:**
- a) There is severe uveitis of injured eye.
 - b) Acute uveitis of other eye.
 - c) There is gonococcal infection.
 - d) There is panuveitis with granulomatous reaction in other eye.
 - e) There is cyclitis of other eye.
- Q.51 The commonest drug used for herpes simplex keratitis is:**
- a) Ribosine arabinoside.
 - b) Gancyclovir.
 - c) Acyclovir.
 - d) Idoxuridine.
 - e) Ecothiophate.
- Q.52 Which of the following is likely to cause retrobulbar neuritis in a patient under going anti-tuberculosis treatment (ATT):**
- a) Rifampicin.
 - b) Isoniazid.
 - c) Pyrazinamide.
 - d) Ethambutol
 - e) Streptomycin.
- Q.53 A weak steroid having least chance of raising intra ocular pressure is:**
- a) Prednisolone.
 - b) Fluorometholone.
 - c) Hydrocortisone.
 - d) Dexamethasone.
 - e) Betamethasone.

- Q.54 The chances of cataract formation is more when steroids are given:**
 a) Topically. d) Peribulbar.
 b) Subconjunctivally. e) Systemically.
 c) Intra vitreal.
- Q.55 In a 40 year old patient lignocaine with 1:100,000 adrenaline was given as a retrobulbar injection. The adrenaline will:**
 a) Increase absorption of lignocaine into blood. c) Delay absorption of lignocaine and prolong its action.
 b) Cause increased excretion of lignocaine from body. d) Decrease adverse effects of lignocaine.
 e) Delay degradation of lignocaine.
- Q.56 An ophthalmologist wants to dilate pupil without causing loss of accommodation. Which of the following drugs will not affect the ciliary muscle while causing dilation of pupil:**
 a) Homatropine. d) Pilocarpine.
 b) Phenyl ephrine. e) Atropine.
 c) Isoproterenol.
- Q.57 A 70 year old hypermetrope suffers from corneal ulcer. We want to avoid atropines topically because even in low doses it can cause:**
 a) Tachycardia. d) Hypotension.
 b) Raised intra ocular pressure. e) Urinary retention.
 c) Raised body temperature.
- Q.58 Pilocarpine is most helpful in:**
 a) Neovascular glaucoma. d) Acute angle closure glaucoma.
 b) Aphobic glaucoma. e) Malignant glaucoma.
 c) Open angle glaucoma.
- Q.59 When topically applied in conjunctival sac the drug may be absorbed if it is:**
 a) Low molecular weight. d) Polarized.
 b) Unionized. e) Smaller in size.
 c) Water soluble.
- Q.60 The best route of antibiotic therapy in endophthalmitis is:**
 a) Intra vitreal. d) Retrobulbar.
 b) Sub-tenor. e) Systemic.
 c) Peribulbar.
- Q.61 A 20 year old full term pregnant lady is suffering from gonorrhoea. To save her child from gonococcal infectin she should be treated with:**
 a) Tetracycline. d) Genticyn.
 b) Suplhadiazine. e) Ceftriaxone.
 c) Erythromycine.
- Q.62 Which of the following is a combination of beta blockers and carbonic anhydrase inhibitors:**
 a) Xalacom. d) Azopt.
 b) Alphagan. e) Cosopt.
 c) Lumigan.
- Q.63 Following drugs can be used to lower intraocular pressure in open angle glaucoma except:**
 a) β -blockers. d) Prostaglandins.
 b) α -agonists. e) Anticholenergic drugs.
 c) Carbonic anhydrase inhibitors.
- Q.64 Chronic allergy in eye due to topical drugs usually cause:**
 a) Severe congestion. d) Papillary reaction.
 b) Mucopurulent discharge. e) Follicular reaction.
 c) Severe pain.
- Q.65 Acetazolamide cannot be used for prolonged periods because it causes:**
 a) Hypokalaemia (loss of K^+) and parasthesia. d) Aggravated gout.
 b) Raised blood pressure. e) Urinary retention.
 c) Raised sugar level.
- Q.66 Sterilization is a term used when:**
 a) All bacteria but not fungi are killed. d) The process destroys all form of microbial life including bacteria, viruses, spores and fungi.
 b) All microorganisms except spores and bacteria are killed.
 c) The instruments are thoroughly cleaned. e) All of the above.

(Continued)

- Q.67 In practice disinfectant used to clean skin is usually:**
- a) Glutaraldehyde.
 - b) Acetone.
 - c) Povidon Iodine.
 - d) Ethylene oxide.
 - e) Hydrogen peroxide.
- Q.68 The autoclave sterilizers normally operate at:**
- a) 121°C at 15 lb/in² for 15 minutes.
 - b) 101°C at 15 lb/in² for 15 minutes.
 - c) 150°C at 15 lb/in² for 50 minutes.
 - d) 121°C at 15 lb/in² for 5 minutes.
 - e) 134°C at 50 lb/in² for 5 minutes.
- Q.69 Sharp instruments are easily sterilized by:**
- a) Autoclave.
 - b) Ethylene oxide.
 - c) Hot air oven.
 - d) Steam.
 - e) Formaldehyde.
- Q.70 A patient is declared fit for general surgery even:**
- a) If his blood pressure fluctuates.
 - b) If the sugar level in previous days has been high.
 - c) If he had a recent history of myocardial infarction.
 - d) If he has no systemic problems and a normal ECG.
 - e) If he has a consolidation in right lung.
- Q.71 Regarding operation under local anaesthesia:**
- a) There is no need for cardiac monitoring.
 - b) It is safe to operate even without an emergency tray.
 - c) A pulse oxymeter is a safe choice.
 - d) Adrenaline is in very low dose and not dangerous.
 - e) Injection into a vein causes no harm.
- Q.72 For patient using aspirin before surgery:**
- a) There is no chance of extra bleeding at time of operation.
 - b) The blood clot is normal.
 - c) Vitamin K injection can help.
 - d) Aspirin should be stopped a few days before operation.
 - e) Pressure bandage is sufficient after surgery.
- Q.73 In a patient waiting for surgery under local anaesthesia:**
- a) Liver function tests should be routinely done.
 - b) Kidney function tests are essential.
 - c) All cases should be screened for HIV.
 - d) Special tests should only be done if indicated by history.
 - e) X-ray chest is needed in all individuals.
- Q.74 Following may be used to sterilize an operation theatre:**
- a) Soap + water.
 - b) Hydrogen peroxide.
 - c) Formalin fumigation.
 - d) Ethylene oxide.
 - e) Nitrous oxide.
- Q.75 The pore size for air filters of an operation theatre should be:**
- a) Less than 5μ.
 - b) 10μ.
 - c) 15μ.
 - d) 20μ.
 - e) Size is not important.
- Q.76 The best air ventilation system for a theatre is when there is:**
- a) Positive pressure ventilation with no filtration.
 - b) Positive pressure ventilation with filters.
 - c) Air conditioners with open air vents.
 - d) Negative pressure ventilation.
 - e) Exhaust fans.
- Q.77 When surgeon is a source of infection in an operation, the infection resides most likely in:**
- a) Clothes of surgeon.
 - b) Gloves of surgeon.
 - c) Hair of surgeon.
 - d) Boil of the foot.
 - e) Nose of surgeon.
- Q.78 Healing by primary intention means:**
- a) Healing in a widely gaped wound.
 - b) Healing in an infected wound.
 - c) No granulation tissue is formed.
 - d) No bleeding occurs.
 - e) Healing of an incised clean wound.
- Q.79 Any peripheral nerve if cut across undergoes:**
- a) Wallerian degeneration followed by regeneration.
 - b) Fatty change.
 - c) Amyloidosis.
 - d) Total degeneration.
 - e) Necrosis.
- Q.80 Wound healing is fast if there is:**
- a) Exposure to ionizing radiation.
 - b) Exposure to ultraviolet light.
 - c) In cold temperatures.
 - d) Deficiency of vitamin C.
 - e) If there is good protein diet.

- Q.81 While treating an infected wound it is best to:**
- Bandage the wound tightly.
 - To leave the wound as such.
 - To apply more stitches to prevent wound opening.
 - To remove loose stitches and clean wound daily with antiseptics.
 - To give systemic antibiotics as a sufficient treatment.
- Q.82 There is no danger to patient from a surgeon if:**
- He has a small boil on leg.
 - He has a mild sore throat.
 - He is running temperature.
 - Surgeon is not wearing a mask.
 - Surgeon has not taken a bath before operation.
- Q.83 In persons having severe infection before surgery the best policy is to:**
- Do all investigations in all cases.
 - Start broad spectrum antibiotics.
 - Take a history do examination and then go for relevant investigations.
 - Do as in (b) and (c).
 - "Routine" investigations are sufficient.
- Q.84 A patient has suddenly collapsed while being taken to ward from theatre. What should be done?**
- Call the anaesthetist.
 - Shift the patient back to theatre.
 - Check A, B, C of patient while at the same time call for help.
 - Raise the drip to increase fluid inflow.
 - Give injection of solucortef.
- Q.85 While giving I/V fluids to a child the greatest danger is:**
- Fluid overload and lung congestion.
 - Raised sugar level.
 - Raised Na⁺ level.
 - Raised K⁺ level.
 - Anaphylactic reaction.
- Q.86 George Engel put forward the concept of Biopsychosocial perspective of health and disease which stresses on the understanding of :**
- Holistic medicine.
 - Social milieu of the patient.
 - Better communication skills.
 - Personality of the patient
 - Psychosocial environment of patient in the same way as pathophysiological processes.
- Q.87 While the physician is expected to know the patient's language, the patient is often unaware of the medical jargon. Therefore :**
- The responsibility lies with the physician to bridge the communication gap
 - The physician must first simplify and explain the medical terminology.
 - The physician must explore the psychosocial background of each patient.
 - Medical jargon must be banned.
 - The physician must learn other languages.
- Q.88 Active listening is a complex process which involves a simultaneous focus on patient's words as well as :**
- Body language.
 - Paralinguistic aspects
 - Active prompting
 - Adequate eye contact.
 - Open ended questions.
- Q.89 Empathy building refers to the statements of the doctor that :**
- Conveys to the patient that his feelings have been well-understood.
 - Show his sincere sympathy for the patient.
 - Relaxes the patient
 - Reflect his good upbringing.
 - Indicate good communication skills.
- Q.90 Empathic skills are essential for better therapeutic relationship and include reflection, validation, support, respect and :**
- Exclusivity.
 - Unconditional positive regard.
 - Informational care.
 - Partnership.
 - Friendship.
- Q.91 Counselling is a technique which aims at :**
- Making people less emotional.
 - Achieving a greater depth of understanding and clarification of the problem
 - Comparing the patient's experiences with one's own.
 - Giving sincere advice and solutions to the patients problems
 - Breaking bad news in a professional manner.
- Q.92 A doctor aiming to adopt the role of a counsellor must exhibit and develop attributes such as :**
- Wide ranging knowledge base,
 - Charismatic personality
 - Mastery of the local dialect.
 - Unconditional positive regard.
 - Honest and simple life style.

(Continued)

- Q.93** A 56 years old male patient has just been diagnosed with Diabetes Mellitus. His physician is concerned about his treatment compliance with the prescribed regimen of medication and dietary changes. The patient is most likely to follow the instructions given by the physician if the conversation with the physician makes the patient :
- a) Calm and collected.
 - b) Calm and questioning.
 - c) Concerned and attentive
 - d) Worried and distracted.
 - e) Fearful and self absorbed.
- Q.94** Consent is the agreement of the patient to an examination, procedure, treatment or intervention. Which of the following pillars of medical ethics does it represent?
- a) Justice
 - b) Beneficence
 - c) Autonomy
 - d) Non-maleficence
 - e) Confidentiality.
- Q.95** A patient constantly defying prohibitions by the doctors in spite of repeated warnings of serious consequences is displaying the phenomena of :
- a) Transference
 - b) Resistance
 - c) Counter-transference
 - d) Non-compliance
 - e) Emotional instability.
- Q.96** Regarding Relative Risk, it is:
- a) $\frac{\text{Rate of disease in a whole group}}{\text{Rate of disease in whole of population}}$
 - b) $\frac{\text{Rate of disease in a group of certain age}}{\text{Rate of disease in whole of population}}$
 - c) $\frac{\text{Rate of disease in a group at a particular time}}{\text{Rate of disease in the same group over last 100 years}}$
 - d) $\frac{\text{Rate of disease in group 1}}{\text{Rate of disease in group 2}}$
 - e) Is same as absolute risk when present over a certain period.
- Q.97** A study is called classic double blind study when:
- a) Treatment assignments are masked from patients but not observer.
 - b) Treatment assignments are masked from observer but not patient.
 - c) Treatment assignments are masked both from patient and observer.
 - d) Patient and observer are not known to each other.
 - e) All observations and calculations are being done by a computer.
- Q.98** Regarding prospective study of a disease:
- a) It begins with a group of individuals free of disease in question and determines rate at which it occurs over time.
 - b) It is done in a group of individuals to determine prevalence of disease.
 - c) It is done in two groups of individuals to compare the incidence in two different populations.
 - d) It is done in two groups one totally affected and other totally free of disease.
 - e) All of the above.
- Q.99** Regarding prevalence of a disease:
- a) Is the frequency with which new cases of a disease present over a particular time.
 - b) Is the frequency with which new cases of a disease arise at a particular point in time.
 - c) Is the frequency with which new case of a diseases arise over a defined period of time.
 - d) Is the frequency with which a disease is found in the group or population under study at a particular point in time.
 - e) None of the above.
- Q.100** Sensitivity is dependant on:
- a) Number of abnormal who screen positive in total population.
 - b) Number of abnormal who screen negative in total population.
 - c) Number of abnormal detected as abnormal by parameter in question.
 - d) Number of normals who screen positive in total number of normals.
 - e) Number of abnormal who screen negative in total number of abnormal.