

PART-I DRILL:

(10 Marks)

Q1. FILL IN THE BLANKS

(1 Mark Each)

- (a) How many maximum step can be taken right arm is....**6 step.**
- (b) The measurement of paces in the side step is **15''**.
- (c) The measurement of paces in the stepping forward and backward is **30''**
- (d) The length of pace while Quick March is **30''**.
- (e) On the command **Dahinesaj** the cadets are to take **Dressing from the right.**
- (f) The command for dismissing the parade is **Visarjan.**
- (g) Present Arm (Salami Shashtra) from Order arms (Baju shashtra) is performed in **three** parts.
- (h) The word of command THAM is to be given when the **Right Foot** is forward on the ground.
- (i) A squad of less than nine cadets is to be formed up in **two** ranks.
- (j) **126** steps are to be taken in a minute in quick march

SHORT ANSWERS

(1 Mark Each)

Q2. What is the strength of Guard of honor for the Prime Minister? (01 marks)
Ans: 100 - ranks and file.

Q3. Write the abbreviation for the following: (01 marks)

- (a) GTI - **Ground Training Instructor.**
- (b) FD - **Food Drill**

Q4. Who are entitled for National salute? (01 marks)

Ans: President of India and Governor of the State.

Q5. What is the distance from heel to heel in Vishram? (01 marks)

Ans: 12 inches.

Q6. How many steps can be taken sideways? (01marks)

Ans: Six steps.

Q7. Define the following terms :-

(02X02=04 marks)

- (a) Alignment
- (b) Squad

Ans: - (a)**Alignment:-**Any straight line on which body of men is formed, or is to form
(b)**Squad:-** A body of men formed for drill or working party

Q8. Define File

(3 marks)

Ans Any man of the front rank together with the man or men immediately behind him.

Q9. How many types of Drills are there? **(3 marks)**

Ans (a) Foot Drill (b) Arms Drill (c) SAT

Q10. Write on which foot the following commands are given during marching:-

(04x1=04 Marks)

Ans. (a) Thum (Halt) : **Right Foot**
(b) Peeche Mud (About turn) : **Left Foot**
(c) Dahine Mud (Right turn) : **Left Foot**
(d) Bayen Mud (Left turn) : **Right foot**

Q11. Define Drill **(4 marks)**

Ans Drill is the means whereby a body of men is controlled and directed efficiently through the executive command of one man, towards the attainment of an aim.

Q12. State True/False

(1 Mark Each)

- (a) On the command "Officer on parade Visarajan" salute is to be given. **(True)**
- (b) Squad always forms up in two ranks. **(False)**
- (c) A line of cadets placed side by side is called rank. **(True)**
- (d) President of India is entitled for National salute. **(True)**

PART-II: WEAPON TRAINING :

(10 MARKS)

Q13. FILL IN THE BLANKS

(5X1 =5 Marks)

- (a). Effective range of Rifle.22" No.II Mark IV is..... **(25 yards)**
- (b). SLR stands for **(Self Loading Rifle)**
- (c). The weight of 7.62 mm SLR Rifle is **(4.4 kg)**
- (d). MPI Means..... **(Mean Point of Impact)**
- (e). Golden rules of firing..... **(Holding, Aiming and Trigger operation)**
- (f). The length of .22 Rifles is **44.5** inches
- (g). Weight of Rifle.22" No.II Mark IV is **8 Lbs 10 ½ oz**
- (h). Effective range of 2 MK 4 rifle is **25 Yards**
- (i). Type of target used in short range (25 Yards) is **1 feet X 1 feet**
- (j). There are **Four** circles on 1'X1' application target.
- (k). Rifle 0.22" is loaded by **hand** only.
- (l). After firing empty case falls in **empty case collector**
- (m). Type of 12 Bore shot used in competition is **4 shot**

Q14. STATE TRUE OR FALSE (T/F)**(5X1 =5 Marks)**

- (a). In Snap shooting firer will get 15 sec for shooting the target. (True/False)
- (b). During firing rifle at the range it is not always necessary that the weapon should be pointed at the target. (True/False)
- (c). The system of operation in Rifle 0.22" is Bolt Action. (True/False)
- (d). The marks given if bullet will hit the bull is 04. (True/False)
- (e). NCC cadets firing with the Rifle 0.22"during range firing practice. (True/False)
- (f). While assembling the bolt of a .22 Rifle ensure the bolt head is loose (True / False)
- (g). In .022" rifle ammunition is loaded in the magazine. (True/ False)
- (h). In Snap shooting firer will get 7 sec for shooting the target. (True/ False)
- (i). In grouping target small squares are of 1 cm square. (True/ False)
- (j). While firing the rifle, target and right leg must be in One line . (True/ False)
- (k). In firing position firer makes a vertical triangle and horizontal triangle. (True / False)
- (l). Firer will get 3 marks if the bullet hits bull in application. (True / False)
- (m). Target for 12 bore Gun is 1'X1' target. (True / False)
- (n). Plastic pigeon is operated by trap machine. (True / False)
- (o). Firer fires 12 bore shot on a static target in competition. (True / False)

Q15. Write the golden rules of firing.**(3 marks)**

Ans (a) Holding (b) Aiming (c) Trigger operation

Q16. What are the types of firing done in short and long range?**(4 marks)**

Ans (a) Application firing
(b) Grouping firing
(c) Snap-shooting.

Q17. Write the full description of 1' x 1' target?**(05 marks)**

Ans: - The 1' x 1' target has four circles: -

- (i) The innermost circle is called bull
- (ii) The next bigger circle is called inner
- (iii) The next bigger circle is called magpie
- (iv) The next bigger circle is called outer

Q18. Write the occasions and items required for cleaning the rifle? (05 marks)

Ans: - **Occasion for Rifle cleaning:** - (i) Before keeping in KOTE (ii) Before and after firing (iii) During firing

Items required for cleaning the rifle: - Oil, flannelette, (Chindi), Pullthrough wire gauge, Chamber stick, cleaning cloth, boiling water

PART III MISCELLANEOUS (225 Marks)**NATIONAL INTEGRATION & AWARENESS****(30 Marks)****Q19. Fill in the blanks-****(1 X 5 = 5 Marks)**

- (a) The statement "Give me blood and I shall give you freedom"

- was given by Subhash Chandra Bose.
- (b) The statement 'Do or Die' was given by Mahatma Gandhi.
- (c) Indian National army was founded by Subhash Chandra Bose.
- (d) Bhagat Singh, Sukhdev and Rajguru were hanged to death on March 23, 1931.
- (e) The Prime Minister of India is the chairman of NIC.
- (f) Air Force day is celebrated on _____. (08 October)
- (g) Motto of NCC is _____. (Unity and Discipline)
- (h) Squadron Leader in Air Force is Equivalent to _____ of Army. (Major)
- (i) There are total (06) Group Headquarters under NCC Directorate (TN,P & AN)
- (j) Aircraft was invented by _____. (Wright Brothers)

NATIONAL INTEGRATION AND AWARENESS (30 Marks)

- Q20. True or False (1 Mark Each)**
- | | |
|--|---------------------|
| (a) Holy book of Hindus is Bible | True / False |
| (b) Worship place for Muslims is Gurudwara. | True / False |
| (c) Buddhism was founded by Gautam Budhha. | True / False |
| (d) Prime Minister is the chairman of NIC. | True / False |
| (e) Indian National Congress was established in 1878. | True / False |
| (f) "Do or Die" statement was given by Jawahar Lal Nehru | True / False |
| (g) First War of Independence started in 1857. | True / False |

Q21. Write the five religions of India and their worship places? (5X2=10 marks)

Ans:- Religions	Worship places
Hindu	Temple
Muslim	Mosque
Sikhism	Gurudwara
Christianity	Church
Buddhism	Buddha vihar
Jainism	Jain temple

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Q22. Write importance of National Integration. (5 marks)

Ans:- Importance: Importance of National integration means the different people of different states with different culture, language and good habits come together for a single goal of nation building. Togetherness it gives us strength, peace, prosperity and happiness to us and our country.

Q23. What is National Integration? (2 marks)

Ans National integration means a feeling of togetherness and unity among the people of a country.

Q24 What are the challenges of National Integration

(6 Marks)

- Ans:
- (a) Casteism
 - (b) Communalism
 - (c) Linguistic Fanaticism
 - (d) Regionalism
 - (e) Social Disparity
 - (f) Economic Inequalities

Q25. Write the different Dravidian languages spoken in India?

(5 Marks)

Ans Tamil Telugu, Malayalam, Kannada, Tulu

Q26. Write short notes on Jalianwala Bagh Massacre.

(5 marks)

Ans. **JalianwalaBaghMassacre:-**JalianwalaBagh massacre of 13 April 1919 was one of the most inhuman acts of the British rulers in India. The people of Punjab gathered on the auspicious day of Baisakhi at JalianwalaBagh, adjacent to Golden Temple (Amritsar), to lodge their protest peacefully against persecution by the British Indian Government. General Dyer appeared suddenly with his armed police force and fired indiscriminately at innocent empty handed people leaving hundreds of people dead, including women and children.

Q27. What are the National integration is therefore a basic necessity for survival of any nation.

(10 Marks)

Ans:- National integration is therefore a basic necessity for survival of any nation such as:-

- (a) Maintenance of sovereignty and territorial integrity of the nation.
- (b) Maintenance of peace and harmony.
- (c) Growth and development of the nation.
- (d) Eradication of poverty and illiteracy.
- (e) Internal security and law and order.
- (f) Culture and religious development.
- (g) Economic and industrial growth.
- (h) Attract foreign investment and increase import and export.
- (j) Exchange of technological know-how and culture.
- (k) Dignity and self respect as a nation.

Q28. TRUE OR FALSE

(15x1= 15marks)

- (a) The ability to generate new ideas by combining, changing or reapplying ideas is known as Critical thinking. (True / **False**)
- (b) Your personality is your identity. (True / False)
- (c) Self awareness is called the mother of all skills. (True / False)
- (d) Knowing others is wisdom but knowing oneself is enlightenment. (True / False)
- (e) Identical twins do not differ in finger prints and personalities. (True / **False**)
- (f) Self-Awareness is recognition of "self". (True / False)
- (g) Body image is the way we perceive our mind. (True / **False**)
- (h) Creativity is the ability to imagine or invent something new. (True / False)
- (j) Physical courage is courage in the face of physical pain. (True / False)
- (k) Attitude is a character of a person. (True / **False**)
- (l) Self-esteem includes a person's subjective appraisal of himself. (True / False)
- (m) Aggressive is a style of communication. (True / False)
- (n) Verbal communication is not effective. (True / **False**)
- (o) Experience is one of the major determinants of personality. (True / False)
- (p) Attitude is a mindset – the 'way' we think and look at things. (True / False)

Q29. Explain the leadership traits of enthusiasm and integrity?

(05 marks)

Ans: -Enthusiasm : Full zeal in doing the work, natural interest joyful positive approach, so that the sub-ordinates can follow with pleasure.

Integrity: One having full truthfulness, honesty, moral principles and good moral character is called integrated person and integrity is a very high spirit.

Q30. What are the skills required for successful leader?

(05 marks)

- Ans: -**
- (i) Cultural flexibility
 - (ii) Communication skills
 - (iii) Human resource skills
 - (iv) Creativity
 - (v) Self management of learning.

Q31. List out any five core life skills which help in enhancing the personality of an individual.

(5 marks)

- Ans**
- 1. Self awareness.
 - 2. Empathy
 - 3. Critical thinking
 - 4. Creative thinking
 - 5. Problem solving skills
 - 6. Decision making
 - 7. Interpersonal relationship

8. Effective communication
9. Coping with emotions
10. Coping with stress

Q32. As per modern psychological studies what are the factors which have lasting effect on an individual's personality? (5 marks)

- Ans**
1. Hereditary
 2. Self development
 3. Environment
 4. Education
 5. Life situations

Q33. What are the dimensions of self awareness? List out any five. (5 marks)

- Ans**
1. Self realization
 2. Self knowledge or self exploration
 3. Self confidence
 4. Self talk
 5. Self motivation
 6. Self esteem
 7. Self image
 8. Self control
 9. Self purpose
 10. Individuality and uniqueness
 11. Personality
 12. Values
 13. Attitude
 14. Character

Q34. What is mind set? (5 marks)

Ans Mindset is the sum of knowledge, including beliefs and thoughts about the world and self. It is one's filter for information one gets in and puts out. It determines how one receives and reacts to information. It is used for a specific part in one's life. As in "the mindset of an entrepreneur" or "the growth mindset".

Q35. What is communication? (5 marks)

Ans Communication is a process of sharing facts, ideas, opinions, thoughts and information through speech, writing, gestures or symbols between two or more persons.

Q36. What are the styles and ways of communication? (5 marks)

- Ans** There are three styles of communication:
1. Aggressive
 2. Passive.
 3. Assertive.

Q37. List out the important leadership traits? (5 marks)

- Ans**
1. Alertness
 2. Bearing
 3. Courage
 4. Decisiveness
 5. Dependability

6. Endurance
7. Enthusiasm
8. Initiative
9. Integrity
10. Judgment
11. Justice
12. Knowledge
13. Loyalty
14. Sense of humor

Q38. Write a short note on the various types of leadership styles. (5 marks)

Ans There is a wide range of styles between the two extremes, the autocratic and democratic.

1. Autocratic styles of leadership: The traditional autocratic style implies the total concern for the mission accomplishment with little or no concern for human relations.
2. Democratic style of leadership: This is also known as non directive style. This stresses the concern for human relationships. In this style of leadership, you share your responsibilities with your subordinates by involving them in both the planning and execution of tasks.

Q39. Briefly explain Moral Courage. (5 marks)

Ans Moral courage is the ability to act rightly in the face of popular opposition, shame, scandal, or discouragement. Moral courage is very rare. It is found in one in a million. There are numerous instances where people have bravely used their physical courage and saved the life of a drowning man, or a house from burning in fire, by jumping courageously into the scene of danger.

DISASTER MANAGEMENT (20 MARKS)

Q40. Fill in the blanks. (6x1=6 marks)

- (a) Foam extinguishers are used on Liquid fire
- (b) The Civil Defence Act of India was enacted by Parliament on May 1968
- (c) Head of the National Disaster Management Authority is Prime Minister
- (d) Forest fire is a man made disaster.
- (e) NDRF comprises of 08 battalions.
- (f) Storm is a wind related disaster.

Q41. What are the essential services during Natural disaster? (05 Marks)

Ans: Essential services during Natural disaster

- Drinking Water Supply
- Tele Communication
- Medical Facilities
- Power Supply
- Public Transportation
- Civil Supply

Q42. Mention some items which are used in extinguishing fire (4 marks)

- Ans**
- | | | |
|-----------------------|-----------------------|----------------|
| (a) Foam Extinguisher | (b) CO2 extinguishers | (c) Fire hook. |
| (d) Water bucket | (e) Sand Bucket | |

Q43. Explain Salvage Services. (2 marks)

Ans It is responsible to salvage the damaged property and keep it in safe custody.

Q44. Give some reasons for Flood. (4 marks)

Ans It can arise from abnormally heavy precipitation, dam failures, rapid snow melting, river blockages or even burst water mains. It is usually sudden in onset. Types of floods can further be classified into Inland and Coastal floods. Major floods result in physical damage, deaths and injuries, problems in drinking water supply and food shortages and displacement of population.

Q45. What are Fire beaters and fire Hooks used for? (4 marks)

Ans Beaters made of wire net in a rectangular shape and hooks made of iron fitted on bamboo poles are ideal for separating the burning and unburnt combustible material, and extinguishing by beating the small fires.

Q46. What is fire? And what are the types of fire? (05 marks)

Ans: -Fire: -

The process whereby substance combine chemically with the oxygen in the air thereby produces heat and light is termed as burning or fire.

Types of fire: -

(i) Solid fire (ii) Oil or liquid fire (iii) Electric fire (iv) Gas fire

Q47. Give some examples of Essential services. (5 marks)

Ans Essential services can be categorized as under:-

- (a) Postal, telegraph or telephone services.
- (b) Transport Services like rail, road, air and sea.
- (c) Running of air / sea ports.
- (d) Provision of water, electricity and sanitation services.
- (e) Medical services and essential supplies.

SOCIAL AWARENESS AND COMMUNITY DEVELOPMENT (10 Marks)

Q48. Fill in the blanks. (13x1=13 marks)

- (a) Oral pills is one of the ways of family planning
- (b) 'National Rural Employment Guarantee Act 2005 was launched on 02 feb 2006
- (c) Tree plantation is a social service
- (d) Good education is one of the ways of improving rural lives
- (e) Civic Sense is the sense in an individual which makes him a civilized citizen of a country.
- (f) Helpline India is one of the example of NGO.
- (g) Right to education act came into existence in the year 2009.
- (h) Bombing are the most common types of terrorist activities
- (j) 'Swarnajayanti Gram Swarajgar Yojna (SGSY) was launched in April 199
- (k) Corruption can be defined as the abuse of entrusted power for private gains.

- (l) **Female foeticide** is the selective abortion / elimination of the girl child in the womb itself.
- (m) Growing Economic Inequality is one of the main causes of **dowry system**.
- (n) Infected needle is one the causes of spreading of **AIDS**

Q49. Expand the following **(2x2=4 marks)**
 (a) NGO - Non Government Organisation
 (b) WHO - World Health Organisation

Q50. Write schemes undertaken by the Govt to eradicate social problems?(6 marks)
 Ans (a) Adult education (b) Rozgar Programme
 (c) Immunization Programme (e) Blood donation programme
 (d) Tree Plantation Programme

Q51. Write four contributions of youth towards social welfare **(4 marks)**
 Ans (a) Leadership.
 (b) Community Service.
 (c) National and Cultural Integration.
 (d) Education and Literacy

Q52. Write any methods of family planning? **(3 marks)**
 Ans (a) Vasectomy (b) Tubectomy

Q53. What is Social Service and what are its aims? **(4 marks)**

Ans Social service is defined by voluntary Efforts to meet income maintenance, Medical care, housing and recreational needs and provision for care and Protection of recognized special groups

AIM :- (a) To develop and understanding of the needs of community, society and the nation.

(b) Understanding major problems in the country and instigate values, morale and skills in extending welfare services among the weaker section of community.

Q54. Write the various type of Social Service Activities. **(6 marks)**

Ans Types of Social Service Activities. The various types of social service activities which can be undertaken are as under:-

- (a) Education.
- (b) Family Welfare, Medical Care, Family Planning and Nutrition.
- (c) Provision of Water and Cooking Fuel, Roads, Electricity and Sanitation.
- (d) Old Age Support Systems.
- (e) Employment.
- (f) Social Assistance, Social Security and Care & Protection.
- (g) Housing and Rehabilitation.

HEALTH AND HYGIENE

(35 MARKS)

Q55. True or false **(10x1=10 marks)**

- (a) The average pulse rate is 84 beats per minute. **(True / False)**
- (b) Contusion is a type of wound. **(True / False)**

- | | | |
|-----|---|------------------------|
| (c) | Heart has got 6 chambers. | (True / False) |
| (d) | Malaria is caused by Fleas | (True / False) |
| (e) | Femur is the largest bone in human body | (True / False) |
| (f) | In case of snake bite wash with soap and water | (True / False) |
| (g) | Screwdriver is one of the tools required for dressing. | (True / False) |
| (h) | Padmasana is a type of Yoga asana. | (True / False) |
| (i) | Sterilization of water is done by adding alum. | (True / False) |
| (j) | Droplet infection can be prevented by use of mask | (True / False) |
| (k) | Human body has 207 bones | True / False |
| (l) | Average weight of male heart is 250 gms | True / False |
| (m) | Arteries carry pure blood from the heart | True / False |
| (n) | Milk handlers should be free from any communicable disease. | True / False |
| (o) | Lung is the most important organ for blood circulation | True / False |
| (p) | Absence of disease is one element of good health | True / False |
| (q) | Wells are source surface water. | True / False |
| (s) | The average pulse rate is 72 bps | True / False |
| (t) | The normal temperature of a man is between 96-97 deg F | True / False |

Q56. How will you maintain good personal hygiene? (05 Marks)

Ans:

- (a) Cleanliness of hair
- (b) Cleanliness of body and skin
- (c) Cleanliness of Clothes
- (d) Cleanliness of nails
- (e) Cleanliness of teeth

Q57. What is Polio? Write the preventive measures? (05 Marks)

Ans: Poliomyelitis is a viral infection caused by poliovirus.
Preventive measures of Polio is immunisation by Oral polio vaccine (OPV)

Q58. What is First Aid? What is the Aim of the First Aid? (5 Marks)

Ans. **First Aid** : The First assistance or treatment given to a patient soon after injury or sudden illness before the arrival of an ambulance or a qualified Doctor is Called First Aid.

Aim of the First Aid : The main aims or goals of the first aid are as following :-

- (i) To preserve the life
- (ii) To prevent the worsening condition of the patient.
- (iii) To promote recovery.

Q59. Expand AIDS (2 marks)

Ans Acquired Immuno Deficiency Syndrome

Q60. Enumerate the points for personal hygiene.

(3 marks)

- Ans**
- (a) Sleep
 - (b) Bathing
 - (c) Eating and drinking

Q61. What are carriers?

(4 marks)

Ans Germs move from infected person to healthy person through blood sucking insects known as carriers.

Q62. What are water borne diseases?

(4 marks)

Ans Certain diseases spread due to infection carried through water. These are cholera, dysentery, diarrhoea, jaundice etc. These spread as water gets contaminated through vomits or faeces passing into it. Epidemics are likely to spread if immediate steps are not taken to disinfect water and to properly dispose off the excreta through efficient conservancy arrangements. All sources of the diseases ought to be eliminated.

Q63. What is the first aid treatment in case of a dog bite?

(6 marks)

- Ans**
- (a) Immediately wash the bite area with lots of water and soap.
 - (b) Wound should be cleaned with available antiseptic.
 - (c) Patient should be sent to hospital for an anti-rabies injection course.
 - (d) Dog and the patient should be kept under observation for at least 10 days.

Q64. What is the first aid in case of simple fracture?

(6 marks)

Ans The first aid to be rendered is:-

- (a) Reassure the patient and make him comfortable.
- (b) Apply splints with any common article like stick or ply board or card board to immobilize the fracture.
- (c) Relieve him of discomfort and pain and keep the patient warm.
- (d) Take the patient to the hospital.

ENVIRONMENT AWARENESS & CONSERVATION

(15 MARKS)

Q65. MCQ

(3x1=3 marks)

- (a) Which of the following is a renewable resource
 - (i) Coal
 - (ii) **Solar energy**
 - (iii) Copper
 - (iv) Iron
- (b) Which of the following gases is responsible for ozone depletion
 - (i) Methane
 - (ii) Carbon dioxide
 - (iii) **CFC**
 - (iii) Hydrogen
- (c) Hangul is a
 - (i) Cow
 - (ii) Tiger
 - (iii) **Deer**
 - (iv) Elephant

Q66. Fill in the blanks

(5x1=5 marks)

- (a) Tiger is an endangered species
- (b) Roof Catchment Systems is a type of rain harvesting system
- (c) Soil pollution is a type of pollution
- (d) CFC is responsible for ozone depletion.
- (e) Project sea turtle was started in 1999.

Q67. What are the components of Ecology ? **(02 marks)**

Ans. Forests, Wild life, Atmosphere, Ground water, River, Lakes, Ponds.

Q68. Define Pollution. What are the agents of air pollution? **(03 Marks)**

Ans. The contamination of environment causing hazards to living organisms and other materials is called pollution.

Agents of air pollution are (i) Factory chimney gases (ii) Automobile smokes

Q69. What is e-waste? **(3 marks)**

Ans Electronic waste or E-waste as it is popularly called, is a collective terminology for the entire stream of electronic wastes such as Used TV's, Refrigerators, Telephones, Air Conditioners, Computers, Mobile Phones etc

Q70. Write the various types of pollution. **(3 marks)**

Ans TYPES OF POLLUTION

- (a) Soil Pollution.
- (b) Water Pollution.
- (c) Air Pollution.
- (d) Sound Pollution.

Q71. Why there is a need for rainwater harvesting? **(6 marks)**

Ans Rainwater harvesting is essential for the following reasons:-

- (a) It helps to recharge sub soil and groundwater thus increasing the level of the water table.
- (b) It helps to create large quantity of pollution free potable water that can be stored in huge tanks or ponds for use later on. In cities, it reduces the dependence on treated water supply to a great extent.
- (c) It ensures ready supply of water on the land surface thereby reducing dependence on the groundwater.

ADVENTURE TRAINING

(20 MARKS)

Q72. TRUE OR FALSE

(6x1=6 marks)

- (a) Parasailing is an adventure sport. **True / False**
- (b) While rock climbing never wear helmet. **True / False**
- (c) Always check harness while rock climbing. **True / False**
- (d) First aid box is not the gear of trekking. **True / False**
- (e) Slithering is also known as Fast-roping. **True / False**
- (f) Trekking is a long, adventurous journey undertaken on motor car or motor bike. **True / False**

Q73. What are the aims of adventure activities? (05 Marks)

Ans. Aims of adventure activities in NCC:-

- (a) To develop self confidence among the cadets
- (b) To develop courage among the cadets.
- (c) To develop determination and qualities of leadership among the cadets.

Q74. Expand the following (2x2=4 marks)

Ans (a) ORS - Oral Rehydration Solution
(b) FAB - First Aid Box

Q75. What are carabineers? (3 marks)

Ans Carabineers are metal loops with spring-loaded gates (openings), used as connectors

Q76. What is Trekking? (3 marks)

Ans Trekking is a long, adventurous journey undertaken on foot.

Q77. What is light weight touring? (4 marks)

Ans Informally called *credit-card touring*, in this a rider carries a minimum of equipment and a lot of money.

OBSTACLE TRAINING (5 MARKS)

Q78. Fill in the blanks (5x1=5 marks)

- (a) There are total of **10** obstacles in standard obstacle course.
- (b) Distance between each obstacle is **30** feet.
- (c) Height of wall is **6 Feet**
- (d) The first obstacle in obstacle course is **straight balance**
- (e) Height of straight balance is 1 ½ feet above the **ground**.
- (f) Height of straight balance obstacle is **2 feet**.
- (g) The total distance covered in standard obstacle is **110 mtr**.
- (h) Third obstacle in standard obstacle is **zig-zag balance**
- (i) Basic obstacle course is also known as **standard** obstacle
- (j) Gap between double ditch is **3 feet**.

NCC (20 marks)

Q79. Fill in the blanks (10X1 marks)

- (a) NCC came into existence on**(16 Apr 1948)**
- (b) Air Wing NCC was raised on**(01 Apr 1950)**
- (c) Naval NCC was raised in.....**(Jul 1952)**
- (d) Girls Division of NCC was raised in**(Jul 1949)**
- (e) The Motto of NCC is**(Unity and Discipline)**
- (f) How many Directorate are there in the NCC.....**(17 Directorate)**
- (g) Expand ANO.....**(Associate NCC Officer)**
- (h) Expand PI Staff.....**(Permanent Instructional Staff)**
- (j) Expand GCI.....**(Girls cadet Instructor)**
- (k) Expand YEP.....**(Youth Exchange Programme)**

Q80. List of the objectives of NCC.

(5 marks)

Ans: The objectives of NCC are:

- (a) Reach out to the maximum youths through various Institutions.
- (b) Make NCC as an important part of the society.
- (c) Teach positive thinking and attitude to the youth.
- (d) Become a main source of National Integration by making NCC as one of the greatest cohesive force of our nation irrespective of any caste, creed, religion or region.
- (e) Mould the youth of the entire country into a united, secular and disciplined citizens of the nation.
- (f) Provide an ideal platform for the youth to showcase their potential in nation building.
- (g) Instill spirit of secularism and united India by organizing National Integration Camps all over the country.
- (h) Reach out to the youths of friendly foreign countries through Youth Exchange Programme.

Q81. List out the various types of camps conducted in NCC.

(5 marks)

Ans: The following types of camps are being conducted in NCC:

- (a) Annual Training Camps.
- (b) Centrally Organised Camps.
 - (i) Leadership Camps (Basic and Advance)
 - (ii) Thal Sainik Camp
 - (iii) Vayu Sainik Camp
 - (iv) Nau Sainik Camp
 - (v) Rock Climbing Camp
 - (vi) National Integration Camp

SPECIALISED SUBJECT
PRINCIPLES OF FLIGHT

(105 Marks)
(15 MARKS)

Q82. Multiple Choice Questions

(5X2= 10 Marks)

- (a) This provides the necessary thrust to get the aircraft in to the air and provides a sustained flight.
 - (i) Aero plane
 - (ii) Aircraft
 - (iii) **Engine**
 - (iv) None of these
- (b) It is a control surface hinged at the rear of the tail plane to provide the Longitudinal control of an aircraft.
 - (i) Aileron
 - (ii) Rudder
 - (iii) **Elevator**
 - (iv) None of these
- (c) Aero plane which can land & take-off from land & water surface provides with u/c & float .
 - (i) Boat
 - (ii) Aircraft
 - (iii) **Amphibian**
 - (iv) None of these
- (d) The speed of an aircraft relative to the air through which it moves.
 - (i) Altitude
 - (ii) Speed
 - (iii) **Air speed**
 - (iv) Attitude
- (e) The atmosphere is divided in main regions-
 - (i) Three
 - (ii) Five
 - (iii) **Four**
 - (iv) One

Q83. Fill in the blanks: (05X01 = 5marks)

- (a) The rotary motion of the aircraft about its longitudinal axis is known as _____ (**Rolling**)
- (b) The unit of pressure is known as _____ (**Millibar**)
- (c) The over all length from wingtip to wing tip is called..... (**Span**)
- (d) The angle at which the maximum lift is produced on an aerofoil is called-----
----- (**Angle of stall**)
- (e) The horizontal component of the total reaction acting parallel and in the same direction as the relative airflow is called ----- (**Drag**)

Q84. What is thrust? Name the methods of providing thrust. (05 marks)

Ans: Thrust : A forward motion of an aircraft propelled by a force is known as Thrust. This force is essential to accelerate the aircraft and balance the drag.
The methods of providing thrust are:

- (a) Propeller
- (b) Jet
- (c) Rocket propulsion.

Q85. Explain the following in brief : (01X05=05 marks)

- (a) **Lift** - The upward force perpendicular to the direction of motion produced by an aerofoil in motion.
- (b) **Drag**- The resistance to motion along the line of flight.
- (c) **Longitudinal stability**: If an aircraft is stable about the lateral axis, (along the longitudinal axis) it is said to be longitudinally stable.
- (d) **Lateral stability**: Stability of the aircraft about its longitudinal axis (from rolling movement) is known as lateral stability.
- (e) **Directional stability**: Stability of the aircraft about its normal axis (from yawing movement) is known as the directional stability.

Q86. What are regions of atmosphere? (06 Marks)

Ans. There are four regions of atmosphere

- i) Troposphere ii) Stratosphere iii) Ionosphere iv) Exosphere

AIRFRAME

(10 MARKS)

Q87. Fill in the blanks (5x1=5 marks)

- (a) The surface fitted rearward and tip side of the both the wings are known as **Ailerons**
- (b) The yawing movement of an aircraft is achieved with help of **Rudder**
- (c) The angular motion about lateral axis is called **pitching**
- (d) The rolling movement of an aircraft is achieved with help of **Ailerons**
- (e) The angular motion about longitudinal axis is called **Rolling**.
- (f) The angle at which both port and starboard planes are inclined upward to the lateral Axis is known as **Dihedral angle**.

- (g) It is an imaginary line running wing tip to wing tip from center of gravity at 90 deg. to the longitudinal axis is called **Lateral axis.**

Q88. TRUE AND FALSE-

(3X1=3 Marks)

- (a) The atmosphere temperature increases when altitudes increases. **False**
(b) Slats are small auxiliary surfaces placed in front of the leading edge of main plane. **True**
(c) A Tube, which has an inlet portion gradually narrowing than throat followed outlet which widens gradually is called venturi tube. **True**

Q89. What is Pitching?

(2 marks)

Ans The angular motion about lateral axis is called Pitching.

Q90. What is the purpose of landing gear?

(3 marks)

Ans The undercarriage or landing gear in aviation is the structure that supports an aircraft on the ground and allows it to taxi, take-off and land.

AIRMANSHIP

(10 MARKS)

Q91. State True or False :-

(5X2=10 Marks)

- a) Land Survival may be classified into three types. **(True)**
b) A black flag on the signal mat indicate 'No Flying'. **(False)**
c) The survival depends on three factors. **(False)**
d) The length of the modern runway is 2000 yards. **(False)**
e) when body temperature is below normal, it is called Hypothermia **(True)**

Q92. Write the reasons of Forced Landing.

(4 Marks)

Ans. Reasons for forced landing are as follows:-

- (i) Fuel shortage (ii) Technical defect in engine or airframe.
(iii) Position not known (iv) Due to bad weather, continuance of flight is not possible.

Q93. Define Aerodrome

(4 marks)

Ans A defined area on land or water including any buildings, installations and equipment intended to be used either wholly or in part for the arrival, departure and movement of ac is known as Aerodrome.

Q94. What is used for civil flying establishments which handle international air traffic?

Ans Airport

(1 mark)

Q95. Expand the following: -

(5x1= 5 marks)

- (a) ETA Estimated Time of Arrival
- (b) LCN Load Classification Number
- (c) ACN Aircraft Classification Number
- (d) ARP Aerodrome Reference Point
- (e) MSL Mean Sea Level

AERO-ENGINE

(5 MARKS)

Q96. Fill in the blanks:-

(6X2=12 Marks)

- (a) In **External** combustion engine the fuel is burnt outside the engine.
- (b) The expansion of BDC is **bottom dead Centre**
- (c) There are total **Two** types of Heat Engine.
- (d) Small end of the connecting rod in piston engine is connected to piston by **Gudgeon Pin.**
- (e) The internal diameter of cylinder measured in inches or MM is known as **bore**
- (f) In exhaust stroke the position of exhaust valve is **open.**
- (g) The **Gas Energy** is produced by the combustion of air fuel mixture.
- (h) The **Forward Thrust** is produced as per Newton's Third Law of Motion.

Q97. Write the four strokes of piston engine.

(3 marks)

- (a) Induction stroke
- (b) Compression stroke
- (c) Power stroke
- (d) Exhaust stroke

GENERAL SERVICE SUBJECT

(10 MARKS)

Q98. Fill in the blanks:-

(5x1=5 marks)

- (a) South Western Air Command is located at **Gandhinagar**
- (b) IL-76 is a **Transport** Aircraft.
- (c) There are total **09** Units/Battalions under Trichy Group.
- (d) The rank of chief of Navy is **Admiral.**
- (e) The Indian Military Academy is located in **Dehradun.**
- (f) The Supreme Commander of Armed Force is.....**President of India**)
- (g) NCC Air Wing was raised in the year**(1950)**
- (h) Air Force Day is being celebrated on**(08 October)**

- (i) The rank of Director General of NCC is(**Lieutenant General**)
(j) The name of Chief of Air Staff is Air Chief Marshal (**BS Dhanoa**)

Q99. Write any two Technical trades in IAF (2 marks)

Ans Structure fitter & MT Fitter

Q100. Write the name of any two helicopters in IAF. (2 marks)

Ans Chetak, Cheetah

Q101. EXPAND THE FOLLOWING TERMS (5x1=5 marks)

- Ans. (a) SSB - Service Selection Board
(b) LCA - Light Combat Aircraft
(c) ALH - Advance Light Helicopter
(d) DDG - Deputy Director General
(e) DRDO- Defence Research and Development Organisation

AIR CAMPAIGNS (10 marks)

Q102. Fill in the blanks. (2x1=2 marks)

- (a) India's commitment to peace has always been total and irrevocable
(b) Operation Safed Sagar was the codename assigned to the Indian Air Force's strike to support the Ground troops during Operation Vijay

Q103. Who is the only officer in Indian Air Force to be promoted to five-star rank Marshal of the Indian Air Force? (1 marks)

Ans Marshal of the Air Force Arjan Singh

Q104. Who was the Prime Minister when air raid siren was sounded in 1971 (2 marks)

Ans Mrs Indira Gandhi.

Q105. Write a short note on operation safedsagar ? (5 marks)

Ans Initial infiltrations were noticed in Kargil in early May, 1999. Because of the extreme winter weather in Kashmir, it was common practice for the Indian and Pakistan Army to abandon forward posts and reoccupy them in the spring. That particular spring, the Pakistan Army reoccupied the forward posts before the scheduled time not only theirs but also which belonged to India, in a bid to capture Kashmir. By the second week of May, an ambush on an Indian army patrol acting on a tip-off by a local shepherd in the Batalik sector led to the exposure of the infiltration. Initially with little knowledge of the nature or extent of the encroachment, the Indian troops in the area initially claimed that they would evict them within a few days. However, soon reports of infiltration elsewhere along the LoC made it clear that the entire plan of attack was on a much bigger scale. India responded with Operation Vijay, a mobilization of 200,000 Indian troops. However, because of the nature of the terrain, division and corps operations could not be mounted; the scale of most fighting was at the regimental or battalion level. In effect, two divisions of the Indian Army numbering 20,000, along with several thousand from the Paramilitary forces of India and the air force were deployed in the conflict zone. the Indian Army moved into the region in full force. Soon, the intruders

were found to be well entrenched and while artillery attacks had produced results in certain areas, more remote ones needed the help of the air force.

Q106. WHY INDO-PAK WAR?

(5 marks)

Ans. The main problem was creation of conditions in Bangladesh which would be conducive to the safe and speedy return of 11 million refugees which had crossed our borders from East Bengal. During 1972, the cost of feeding refugees would amount to £290 million as against the international aid of about £190 million. On 5th December 1971, Sunday Times, London reported "one result of India's victory would be the collapse of military rule and the triumph of democracy. It is no paradox therefore, to see that India is fighting to bring freedom to all the people of the sub-continent, who are in the eye of God, one people".

INSTRUMENT

(10 MARKS)

Q107. MCQ

(2x1=2 marks)

- | | | | |
|-------|--|------|------------------------|
| (a) | The Altimeter is supplied with | | |
| (i) | Pitot pressure | (ii) | Static pressure |
| (iii) | Pitot static pressure | (iv) | Air pressure |
| | | | |
| (b) | When height (altitude) increases, pressure | | |
| (i) | Increases | (ii) | Decreases |
| (iii) | Remains the same | (iv) | none of the above |

Q108. Fill in the blanks: -

(5X1=5 Marks)

- (a) Pressure created due to the forward motion of the aircraft is called **Pitot pressure**
- (b) Pressure surrounding the aircraft is called **Static pressure**
- (c) To prevent the ice formation on pitot head, it is filled with **Heater Element**
- (d) Instrument used to indicate the altitude of aircraft is called **Altimeter**
- (e) Atmospheric pressure at mean sea level is **1013.2 millibar**

Q109. Write the types of Radars.

(3 marks)

Ans. Types of Radars are :-

- (a) Primary Radar
- (b) Secondary Radar
- (c) Continuous Wave Radar

Q110. Briefly explain Primary Radar.

(4 marks)

Ans. This radar uses the principle of pulse technique to determine range and bearing of an object. Working on echo and search light principle, a transmitter transmits pulses. All objects in the path of the pulses will reflect and scatter this energy. Some of the reflected energy reaches the receiver. The reflected energy is processed to give the required information. In this radar, the object's cooperation is not required in the entire process.

Q111. Write the basic parts of RADAR.**(4 marks)****Ans** The basic parts of radar are:-

- (a) The transmitter creates the radio waves.
- (b) The antenna directs the radio waves.
- (c) The receiver measures the waves which are bounced back by the object that the radar is trying to find. By doing this, the radar can find what place the object is at.

Q112. Explain the operation of Air Speed Indicator?**(4 marks)**

Ans This instrument uses an open ended capsule fixed inside an airtight case. The open end is connected to pitot pressure. Static pressure is fed inside the case. The static pressure remaining constant in the entire case, the variation is only in the pitot pressure due to the movement of the aircraft in air. The capsule accordingly expands or contracts and this variation is calibrated in terms of speed.

NAVIGATION**(10 MARKS)****Q113. FILL IN THE BLANKS****(05 marks)**

- (a) The art of guiding an aircraft through air is called Air navigation
- (b) The circle drawn on surface of earth which cut earth in two equal parts is called Great circle
- (c) Angular difference between true north and magnetic north is called variation.
- (d) The angle between course and track is Drift
- (e) ETA stands for Estimated time of arrival
- (f) The line cutting all the meridian at same angle is called Rhumb line
- (g) The direction pointed by freely suspended magnet is Magnetic North
- (h) Angular difference between magnetic north and compass north is called Deviation
- (i) The line joining the places of equal variations is called Isogonals (e)
Direction in which fore and aft axis of aircraft pointing is known as Heading.
- (j) Direction of the path of aircraft with reference to the ground is called Track.

Q114. What is flight planning?**(05 marks)**

Ans: - The importance of accurate flight planning with correct estimate of fuel and oil calculation, flight timings, knowledge of diversions incase of emergencies, knowledge of weather forecast etc. cannot be over emphasized to a pilot. A good pilot will plan his flight meticulously and with due regard to all aspects , leaving nothing to change.

METEOROLOGY**(20 Marks)****Q115. FILL IN THE BLANKS****(5 Marks)**

- (a) IMD stands for **Indian Meteorological Department**
- (b) Observation of surface wind, clouds, state of sky etc. visually is called **Visual observation**
- (c) Atmospheric pressure measured with the help of **Barometer**
- (d) Water vapor contents in the air is called **Humidity**
- (e) The air in horizontal motion is called **Wind**
- (f) Land breeze blows from **Land** to **Sea**.
- (g) The temperature at which saturation is reached is called **Dew Point Temperature**

Q116. Write the types of clouds? (05 marks)

Ans: - (a) Altostratus (b) Strato cumulus (c) Stratus (d) Nimbostratus (e) Cumulus (f) Cumulo-Nimbus

Q117. What are the Met Codes used for transmitting surface and upper air reports& codes used in current weather forecasts? (05 marks)

Ans: - (i) Synopcode (ii) Pilot code (iii) Temp code.

Codes used in current weather forecasts are:

- (a) Meter code (b) Speci code (c) Taf code (d) Rofor code (e) Fifer code (f) Arfor code.

Q118. Write the class of family of clouds with height. (05 marks)

Ans:-	Class of family	Average height from base
	(i) High clouds	20000 feet and above
	(ii) Medium clouds	8000 feet to 20000 ft.
	(iii) Low clouds	Ground level to 8000 ft.

MODERN TRENDS (Marks 5)

Q119. What is UAV? (5 Marks)

Ans The UAV is an acronym for Unmanned Aerial Vehicle, which is an aircraft with no pilot on board. UAVs can be remote controlled aircraft (e.g. flown by a pilot at a ground control station) or can fly autonomously based on pre-programmed flight plans or more complex dynamic automation systems. UAVs are currently used for a number of missions, including reconnaissance and attack roles. There are a wide variety of drone shapes, sizes, configurations, and characteristics. They are predominantly deployed for military applications, but also used in a small but growing number of civil applications, such as firefighting and nonmilitary security work, such as surveillance of pipelines. UAVs are often preferred for missions that are too 'dull, dirty, or dangerous' for manned aircraft.

Q120. Types of UAV?

(05 Marks)

- (i) **Target and decoy** - providing ground and aerial gunnery a target that simulates an enemy aircraft or missile
- (ii) **Reconnaissance** - providing battlefield intelligence.
- (iii) **Combat**- providing attack capability for high-risk missions.
- (iv) **Research and development** - used to further develop UAV technologies to be integrated into field deployed UAV aircraft.
- (v) **Civil and Commercial** - UAVs specifically designed for civil and commercial applications