

Civil Aviation Authority of Nepal
Civil Aviation Academy
Sanothimi, Bhaktapur
Syllabus of
Basic Aerodrome Rescue and
Fire Fighting Course (ARFF)



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2018

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Dr. J.

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COURSE INTRODUCTION

This syllabus of **Basic Aerodrome Rescue & Fire Fighting Course (ARFF)** is applicable to the new recruits of Airport Firemanship. This course is designed to meet ICAO competency requirements in aircraft rescue & fire fighting. The name of the course will be **Basic Aerodrome Rescue & Fire Fighting Course**.

The aim of Basic ARFF Course is to provide a theoretical and practical knowledge about Rescue & Fire Fighting and operations of RFF equipments required to meet the demanding challenges of aircraft rescue & fire fighting operation.

OBJECTIVES

Upon successful completion of this course, participants will be able to perform rescue & fire fighting for aircraft accident/ incident or other airport emergencies and structural fires.

COURSE DISCIPLINE

From the commencement to the completion of the training course, fire services discipline shall be strictly observed by all trainees, who will remain responsible for such discipline to the senior instructor/instructors. The faculty chief/senior instructor/instructor will take necessary action against those trainees who are found guilty of violating the norms and values of fire service discipline. Absences of more than an aggregate of 5 working days or continuous 3 working days by any cause will disqualify any trainee for further training. Similarly, absence on final examination on any subject will disqualify any trainee for further training. In the case of violating the fire service discipline, CAA Chief can terminate the participants on the recommendation of instructor or faculty chief.



COURSE DURATION

Course duration will be 14 weeks or 84 working days with the total hours 434.

ENTRY STANDARD

The entry qualifications are based on the standard rules & regulations set by CAAN and as per the following provision:

ACADEMIC

Minimum qualification: S.L.C. or S.E.E (minimum GPA 2.0)

AGE

The candidate shall not be less than 18 years old and not over than 25 years of age and shall meet the following prerequisites in relation to physical characteristics:

Number of Participants:-

16 Persons: The number of persons may be increased in case of suitable candidates are not available in the selection process as per Clause 3 of 3.2 CAAN personnel Regulation with amendments).

Physical Fitness Assessments

All candidates shall participate in a physical fitness assessment as per selection process. Supervisor shall ask to all candidates for physical fitness assessment about the Aerobic Capacity, Body Composition, Muscular Strength, Muscular Endurance and Flexibility etc.

The candidates should not have the following physical deficiencies:

- 1) Deformity/Disfigurement (अंगभंग कुरूप देखिने)
- 2) Deformed hands & feet and defective fingers (हातखुट्टा बांगो टिंगो र औलाहरु ठिक नभएको)
- 3) Locked Knee or bowing due to rickets (घुडा knee lock भएको वा rickets भई फाटिएको)
- 4) Flat foot (भालु पाइले)
- 5) Indistinct speech/stammering (भकभक)
- 6) Dumb (लड्कै)
- 7) Hunched back (ढाड कुप्रो भएको)
- 8) Stiff back (inability to bend) (शरीर पुरा झुकाउन नसक्ने)
- 9) Scoliosis (बांगो शरीर भएको)
- 10) Tania versicolor (Superficial fungal skin infection) (दुवि भएको)
- 11) Bald head (कपाल झरेको)
- 12) Squinted eye (आँखा डेरो भएको)
- 13) Unnatural spots in the face (शरीरमा अस्वभाविक दागहरु भएको)
- 14) Tattoo marks over the visible parts of the body (टाटु मार्क बनाएको)
- 15) More than 2 teeth carries or missing (दातहरु किराले खाएको वा झरेको)
- 16) Varicose veins (नशा फुल्ने भएको)



PHYSICAL (BODILY) MEASUREMENT AND GRADING 10 Marks

1. Height: -

The minimum Height of the candidates should be 5 feet 2 inches. For different height, the following grading criteria should apply :

Height	Marks	Remarks
5 feet 2 inches to 5 feet 3 inches	6	
5 feet 4 inches to 5 feet 5 inches	7	
5 feet 6 inches to 5 feet 7 inches	8	
5 feet 8 inches to 5 feet 9 inches	9	
5 feet 9 inches Aboves	10	

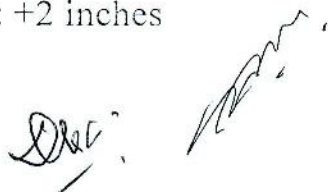
2. Weight: -

The minimum weight of the candidates should be 52 kgs.

3. Chest: -

Minimum : 32 inches

Extended : +2 inches

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PHYSICAL EFFICIENCY TEST:-

5×10=50 Marks

The candidates shall, perform a race of 2.5 km. within 12 minutes. **10 Marks**

Particulars	Marks	Remarks
A race of 2.5 k.m., complete within 8 minutes	10 marks	
A race of 2.5 k.m., complete above 8-9 minutes	9 marks	
A race of 2.5 k.m., complete above 9-10 minutes	8 marks	
A race of 2.5 k.m., complete above 10-11 minutes	7 marks	
A race of 2.5 k.m., complete above 11-12 minutes	6 marks (min.)	Pass Mark

The candidate shall, perform 25 bent-knee, sit-ups within 90 seconds. **10 Marks**

Particulars	Marks	Remarks
A bent-Knees, Sit-up for 41 times or above within 90 sec.	10 marks	
A bent-Knees, Sit-up for 36-40 times within 90 sec.	9 marks	
A bent-Knees, Sit-up for 31-35 times within 90 sec.	8 marks	
A bent-Knees, Sit-up for 26-30 times within 90 sec.	7 marks	
A bent-Knees, Sit-up for 25 times within 90 sec.	6 marks (min.)	Pass Mark

The candidate shall, from completely extended arm position, pull the body upwards so as to chin-up the horizontal bar being grasped by the hands, palms away, a lot of 5 consecutive times. **10 Marks**

Particulars	Marks	Remarks
Chin Pull-up continuous for 15 times above	10 marks	
Chin Pull-up continuous for 12-14 times	9 marks	
Chin Pull-up continuous for 9-11 times	8 marks	
Chin Pull-up continuous for 6-8 times	7 marks	
Chin Pull-up continuous for 5 times	6 marks (min.)	Pass Mark

The candidate with a beam secured to a level floor and measuring 20 feet long and 3-4 inches wide, 1 ft. height and with a length of fire hose weighing at least 10 kgs., shall walk the length of the beam carry the length of the hose, without fall off, or stepping off the beam. **10 Marks**

Particulars	Marks	Remarks
3"×4"× 20 fts. beam, carry with 10 kg. hose within 10 sec.	10 marks	
3" ×4"× 20 fts. beam, carry with 10kg. hose within 11-15 sec.	9 marks	
3" ×4"× 20 fts. beam, carry with 10 kg. hose within 16-20 sec.	8 marks	
3" ×4"× 20 fts. beam, carry with 10 kg. hose within 21-24 sec.	7 marks	
3" ×4"× 20 fts. beam, carry with 10 kg. hose, not exceeding 25 sec.	6 marks (min)	Pass Mark

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The candidate shall lift a load of 55 kgs. from the floor and carry it 100 feet.
10 Marks

Particular	Marks	Remarks
Lift up a load of 55kgs from the floor and carry it 100 fts nonstop within 20 sec.	10 marks	
Lift up a load of 55kgs from the floor and carry it 100 fts nonstop within 21-25 sec.	9 marks	
Lift up a load of 55kgs from the floor and carry it 100 fts nonstop within 26-30 sec.	8 marks	
Lift up a load of 55kgs from the floor and carry it 100 fts nonstop within 31-34 sec.	7 marks	
Lift up a load of 55kgs from the floor and carry it 100 fts nonstop, not exceeding 35 sec.	6 marks(min)	

Dec, 2018

General knowledge and social Studies:

1. Geography of Nepal

- 1.1 Geographical Condition/Structure: Types and Characteristic
- 1.2 Weather: Types and Characteristic
- 1.3 Water Resources: Status and Important
- 1.4 Forest Resources: Condition and important, reason of forest and reserve area destruction, preventives measures.
- 1.5 Mineral Resources: general knowledge on mineral resources
- 1.6 Major Mountains, Himalayas, reserve areas, lakes, rivers, fountains and Pass

2. History and Culture

- 2.1 Kausik Civilization, Bagmati Civilization, Gandaki Civilization, Karnali Civilization
- 2.2 History of Modern Nepal(Prithivi Narayan Shah to Till Now)
- 2.3 Cultural , Religion and Traditional Customs, Caste, Linguistics, Art and Literature of Nepal
- 2.4 Types, Characteristics, and Importance of Cultural Resources

3. Constitutional Systems and Inclusiveness:

- 3.1 Present Constitutional of Nepal (Part 1,2,3,4 and all Annex)
- 3.2 Inclusiveness, Proportionate Representatives, Positive Discrimination.

4. Infrastructure Development of Nepal:

- 4.1 Agriculture, Communication, National and International Tourism, Land and Air transportation.
- 4.2 Development of Air transport in Nepal
- 4.3 Preservative and Safety measurement of natural disaster in Airport like fire etc.

5. Population and Environments:

- 5.1 Population, urbanization, Habitant (migration), etc
- 5.2 Eco system, biological diversity, Climate change, environment and Pollution.

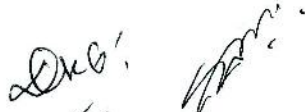
6. Science and Technology:

- 6.1 Impact of Science and technology in human sector and Society.
- 6.2 Health, Communicable and Non-Communicable diseases.

7. Regional Firm /organization:

- 7.1 SAARC and BIMSTEC

8. National and International contemporary Incidents and latest activities related to political, social, economical, Scientific, cultural, sports, award, art, literature and music etc...



First Paper

Physical (Bodily) Measurements and Grading/Physical Efficiency Test (PET)

S.N	Paper/ Test	Subject/ Test	Full Marks	Pass Marks	Mode of Questions/ Events	Question/Test ×Marks	Time	Remarks
1.	First	PM, PET	60	Max. 10 Min. 6	-	-	As per Events	PM is as follows: 1. Height/Weight/Chest Measuring PET Events are as follows: 1. Race 2. Sit-up. 3. Chin-up 4. Beam Walk 5. Load Bearing

Notes:

The following question will be asked from Second paper (General Knowledge and Social Studies) from each unit.

Second Paper: (General knowledge and social Studies)

S.No.	Subjects	Points	Time
1.	Geography of Nepal	3	30 Minutes
2.	History and Culture	3	
3.	Constitutional Systems and Inclusiveness:	3	
4.	Infrastructure Development of Nepal:	3	
5.	Population and Environments:	3	
6.	Science and Technology:	3	
7.	Regional Firm /organization:	3	
8.	National and International contemporary Incidents and latest activities	4	
Total Questions		25	

Third Paper

English Paper

Unit	Subjects	Full Marks	Pass Marks	Types of Exam	Questions' Marks	Time
3	English Paper	50	20	Subjective		90 Minutes
Essay Writing (150 Words)					1 * 15 = 15	
Meaningful Sentence Ordering and Construction (Word Order)					5 * 2 = 10	
Grammar (Fill Up the Blanks)					5 * 2 = 10	
Comprehension					1 * 15 = 15	

English Paper (Subjective Question) (90 minutes)

50 Marks

Essay writing (150 words)

15 marks

Meaningful sentence ordering and construction (word order)

5×2=10 Marks

Fill up the blanks

5×2=10 Marks

Comprehension

15 marks

INTERVIEW

20 marks



MEDICAL CHECK-UP

Before commencement of the training course, all trainees will be required to submit a **medical report**. He/she should be certified as physically and mentally fit to undergo at Basic Rescue & Fire Fighting Training. Evidence of physical and medical fitness in the Civil Aviation Medical Assessor (CAMA) Form will be required from each trainee. Medical Form is attached with this Syllabus/course. *(See Appendix-1)*

SELECTION CRITERIA

The selection criteria are based on the provisions made in respect of **inclusion** as per clause 3 of rule 3.2 of CAAN Personnel Regulations 2056 (with amendment).

Regarding minimum requirement of physical fitness (Height, Weight and Chest), **Examination Conduction Committee** will carry out all the tests and checks relating to Physical measurements, physical efficiency test, followed by a written examination. Physically fit applicants, as required by office and declared by candidates via application form, will only be eligible for participation in **Physical Efficiency Test (PET)**.

Regarding Physical Efficiency Test, each and every item/event shall have to be successfully completed to be eligible for subsequent events in the process. However, unsuccessful candidate may opt for test on the events that follow, which will be solely for the purpose of documentation by the concerned authority for future test design.

Candidates successful in Physical Measurements and Physical Efficiency Test shall only be permitted to take the **written examination**.

Having met the criteria regarding the physical measurements requirements (prerequisites) and successfully completed the Physical Efficiency Tests (PET) and passed the written examination, the candidates shall take interview.



However, the candidates for interview will be selected on the basis of merit earned on all the above mentioned tests.

20% marks will be deducted for a wrong answer in multiple choice questions. However, the marks will neither be granted nor be deducted for unanswered questions, if any.

Candidates will be selected on the **merit basis** i.e. from combined score of all examinations they performed.

Successful candidates (after completion of all tests, examination and interview) shall produce medical report from government approved hospital evidencing his/her medical fitness.

Any other pertinent issues as may arise during the selection process will be addressed by the **Examination Conduction committee** based on the provisions of CAA Training and Procedure Directives, CAAN Requirement Directive, and Practices observed by CAAN Recruitment Committee or Public Service Commission of Other Similar Government Agencies.

SCHEME OF EXAMINATION

S. N	Paper/Test	Subject/ Test	Full Marks	Pass Marks	Mode of Questions / Events	Question/Test ×Marks	Time	Remarks
1	First	PM, PET	60	Max. 10 Min. 6			As per Events	PM is as follows: 2. Height/Weight/ Chest Measurement PET Events are as follows: 1. Race 2. Sit-up, 3. Chin-up 4. Beam Walk 5. Load Bearing
2	Second	GK	50	20 (40%)	Objective: Multiple Choice	25×2	30 minutes	
3	Third	English Paper	50	20 (40%)	Subjective	1×15=15 5×2=10 5×2=10 1×15=15	90 minutes	PM is as follows: 3. Height/Weight/ Chest PET Events are as follows: 1. Race 2. Sit-up, 3. Chin-up 4. Beam Walk 5. Load Bearing