

Section-C

6. List out Rescue knots and various rescue methods along with the purpose of each of them.
7. What difficulties are likely to be faced during an earthquake with mass casualties.

Section-D

8. Explain respiratory physiology of a healthy human being. How will you determine the Total Duration of a air BA set ?
9. What are the methods of Artificial resuscitation? Explain merits and demerits of each method.

B. Tech. 5th Semester (Fire Technology and Safety)**F. Scheme Examination, December-2017****RESCUE EQUIPMENT AND TECHNIQUES****Paper-FT-301-F***Time allowed : 3 hours]**[Maximum marks : 100*

*Note : (i) Students have to attempt five questions in total.
At least one question from each section must be attempted.*

(ii) Question No. 1 is compulsory.

1. (a) Write (T) for true (F) for false statement. $10 \times 1 = 10$
 - (i) Hydraulic power gives more mechanical advantage compared to electrical power.
 - (ii) Lifting capacity of a lifting bag is inversely proportional to the surface area of bag in contact with the weight.
 - (iii) Hydraulic spreader can not be used for squeezing.
 - (iv) Long lines are used for rescue purpose.
 - (v) Single sheet bend is used for tying two ropes of unequal thickness.
 - (vi) Water discharged in mist form gives best cooling affect.

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- (vii) Safety margin for air breathing set is 15 minutes.
- (viii) A short extension ladder can not be used as stretcher.
- (ix) Test pressure for 10 kgs. Dry powder extinguisher is 35 bars.
- (x) Steel rope is used for extension in Turn table ladders.
- (b) Fill in the blanks : $10 \times 1 = 10$
- (i) The slivers in rope laid together form
- (ii) Air consumption of a healthy man is Liters per minute.
- (iii) 13.5 meters extension ladder has extension pieces.
- (iv) Single sheet bend is used to tie two ropes of thickness.
- (v) Passage between two stretchers in an ambulance should not be less than inches.
- (vi) Vital capacity of lungs for a healthy man is around Liters.
- (vii) In TTL extension is proportional to elevation.

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- (viii) An air BA set cylinder contains 600 liters of air at pressure of 100 bars. The water capacity of cylinder is liters.
- (ix) Duration for discharge test for 10 liters water extinguisher is years.
- (x) Gas is used as expellant in stored pressure 10 kgs dry powder extinguisher.

Section-A

2. How many types of Alluminium Extension ladders are used in fire departments ? What are standard tests for these ladders and how these tests are conducted ?
3. Draw performance standard for Hydraulic cutter and spreader rescue operation as hand operated tools.

Section-B

4. What is Fire Tender ? Outline essential constructional and performance features of Water Tender (type B) for Fire Brigade use.
5. Describe use of Turn Table ladders, safety features of such ladders and precautions in their use.

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[P.T.O.]