



BHARAT SEVAK SAMAJ

NATIONAL DEVELOPMENT AGENCY, PROMOTED BY GOVERNMENT OF INDIA

CENTRAL BOARD OF EXAMINATIONS

BSS NATIONAL VOCATIONAL EDUCATION MISSION

FSS010-BSS DIPLOMA IN FIRE & SAFETY ENGINEERING TECHNIQUES

ONE YEAR EXAMINATION NOV-2015

FSS010-01 COMMUNICATIVE ENGLISH AND COMPUTER FUNDAMENTALS

TIME: 3 Hours

Marks: 100

INSTRUCTIONS

- * 33 questions are there in total
- * Write answers to each question in proportion to the mark allotted
- * During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS

1 x 10 = 10

- 1) Lotus is lovely flowers
- 2) They are playing the tree.
- 3) Call out
- 4) Joystick is a.....device
- 5) Key board shortcut for undo command is
- 6) Function keys are
- 7) The extension of word file is
- 8) Corel draw is based on.....graphics.
- 9) ALU stands for.....
- 10) She is B.sc graduate

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) What are the types of letters?
- 2) What is meant by preposition?
- 3) Define vowels?
- 4) Define countable nouns?
- 5) Verb
- 6) Write short notes on Super Computer
- 7) Briefly explain the table menu in MS Excel
- 8) Web layout
- 9) Active form
- 10) Write about characteristics of computer?

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS**5 x 5 = 25**

- 1) Explain few sentences using "am, is, are"?
- 2) Define kinds of nous?
- 3) Classification of the computer
- 4) Tool menu
- 5) Explain Cut, Copy and 'Paste'
- 6) Hybrid computer
- 7) Importance of information technology
- 8) Write details about Charles Babbage?

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS**15 x 3 = 45**

- 1) Write a letter to your father asking permission join the N.C.C?
- 2) Write about the conversation to two person?
- 3) Explain the MS word and its applications
- 4) Explain details of Accessories in windows?
- 5) Explain about mail merge



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ONE YEAR EXAMINATION NOV-2015

FSS010-02 ACCIDENT PREVENTION AND RISK MANAGEMENT

TIME: 3 Hours

Marks: 100

INSTRUCTIONS

- * 33 questions are there in total
- * Write answers to each question in proportion to the mark allotted
- * During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS

1 x 10 = 10

- 1) In metabolic Heat production the heat production of heavy physical work is _____.
- 2) Air supply rate for the work place should be, per occupant -----
- 3) Which of the following have been provided for the workmen to work in hot atmosphere? -----
- 4) In a hazardous work area, hot work permit is required for -----
- 5) Noise level below _____ decibel is considered to be safe for human
- 6) _____ is used for photo electric and a light.
- 7) TLV stands for _____
- 8) The example of main water pollution are _____
- 9) The main green house gases are _____, _____ and _____
- 10) Green house effects was discovered by _____

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define Electromagnetic sensor?
- 2) Define corrected effective temperature?
- 3) What is contaminants control?
- 4) Expand FMEA?
- 5) Explain the causes of landslides?
- 6) What are the two alternatives of the risk manager?
- 7) What are the types of pollution?
- 8) Define water pollution?
- 9) What states have the largest amounts of industrial pollution?
- 10) What is land pollution?

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS**5 x 5 = 25**

- 1) Explain the methods of Risk assessment?
- 2) What are the applications of ergonomics?
- 3) Explain - hazard symbols?
- 4) Explain the fundamentals of loss control?
- 5) Give a short note on Home safety & explain its benefits?
- 6) Why should we maintain health & safety at home?
- 7) What are the points to be remembered about work station design?
- 8) Describe the safe handling of tank trucks in refinery site?

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS**15 x 3 = 45**

- 1) Explain the types of landslide?
- 2) Describe the advantages of good ventilation?
- 3) Explain briefly about the on site and off site planning?
- 4) Mention any two of natural disaster and its control measure for prevention?
- 5) What are the advantages of insurance in commercial hazard?



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FSS010-BSS DIPLOMA IN FIRE & SAFETY ENGINEERING TECHNIQUES

ONE YEAR EXAMINATION NOV-2015

FSS010-03 FIRE HYDRAULICS AND FIRE LOSS CONTROL

TIME: 3 Hours

Marks: 100

INSTRUCTIONS

- * 33 questions are there in total
- * Write answers to each question in proportion to the mark allotted
- * During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS

1 x 10 = 10

- 1) 0° Kelvin = _____
- 2) The expansion ratio of CO₂ is _____
- 3) Employment of women in factory are permitted only _____
- 4) _____ extinguisher contain a dry chemical powder
- 5) If a substance has a vapor density of 1.5, it is _____ times as heavy as air
- 6) _____ means the lowest temperature at which a substance continues to burn in air.
- 7) _____ is an electrical charge that accumulates on the surfaces of two materials that have been brought together and then separated.
- 8) Which of the following is a scalar quantity
- 9) In a gas turbine, the combustion of fuel and air is carried out in
- 10) Aerofoil shape is imparted to the aircraft wing by structures known as

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) What are the proven methods of reducing the risk of fire?
- 2) State the colour coding requirements for portable fire extinguishers?
- 3) What is stand-by pump?
- 4) What is CO₂ flooding system?
- 5) What radiant energy will be form if hot 'gases' fire releases?
- 6) Mention two advantages and disadvantages of detectors?
- 7) What is light hazard?
- 8) Explain Annual testing?
- 9) What are the aircraft types of fuel?
- 10) What is cargo?

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS**5 x 5 = 25**

- 1) what are the types of Natural fibber ropes?
- 2) Explain fire safety in go downs?
- 3) What are the fire precautions needed while cooking?
- 4) Explain about any two extinguishing agents?
- 5) Write a short note on aarm device?
- 6) Explain Dry Riseer System?
- 7) What are the general safety precautions to be followe?
- 8) What are the things to be considered while en-route to a crash site?

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS**15 x 3 = 45**

- 1) Describe the effects of fire in an unprotected steel beam?
- 2) what are the types of positive displacement pump and its Explain?
- 3) what are the causes of bus and coach engine fires?
- 4) what is the emergency plan for fire safety?
- 5) What we should do in an interior rescue operation?



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FSS010-BSS DIPLOMA IN FIRE & SAFETY ENGINEERING TECHNIQUES

ONE YEAR EXAMINATION NOV-2015

FSS010-04 SAFETY IN ELECTRICAL SYSTEMS

TIME: 3 Hours

Marks: 100

INSTRUCTIONS

- * 33 questions are there in total
- * Write answers to each question in proportion to the mark allotted
- * During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS

1 x 10 = 10

- 1) The name of gas contain with in the cylinder shall be clearly stenciled in letter not less than _____ cm height on the cylinder body.
- 2) Testing with air or other gases under pressure can be hazardous due to the _____
- 3) Safety net should install more than _____ feet below the working surface.
- 4) _____ dyes are usually added to the water to make leaks easier to see in powered hydraulic pressure test.
- 5) Temporary electrical system shall conform to the standard of _____
- 6) which of the following factor could cause a fall?
- 7) Means a total spread out and smooth the concrete.
- 8) True/False A) Dampers and dump Trucks Designed to carry Passengers. B) The fixed excavator loosen the soil and loads on Moving position
- 9) When Traveling with a load on the forks the forks should be Possible.
- 10) In Generator And Extinguishers are recommended.

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) What is Risk assessment?
- 2) What are the main hazards in working at height?
- 3) How much weight must an "Anchor point" for lifelines, lanyards and deceleration devices hold?
- 4) When putting on your fall protection full body harness, where should the dorsal "D-Ring" be located?
- 5) When and who must inspect scaffolding, and does this information need to be documented?
- 6) What are some of the underground utilities / hazards workers may encounter during excavations?
- 7) What are the two methods used in welding safety?
- 8) What are the hazards of portable power tools?
- 9) Mention the tyoes of static electricity?
- 10) List out various hazards of electricity?

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS**5 x 5 = 25**

- 1) Explain the safety procedure in site planning & house keeping
- 2) Explain the scaffolding regulations?
- 3) what are the hazard and prevention measure for forklift safety?
- 4) what are safety measures to prevent ladder and its types of ladder?
- 5) what are factors of manual handling materials?
- 6) Explain the statutory provisions?
- 7) Explain confined space working?
- 8) How the confined space entry permit will be look like. Explain it?

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS**15 x 3 = 45**

- 1) Mention the use of safety nets.
- 2) what are the precautions should follow on scaffold by worker?
- 3) What is a fire lift? How is it different from ordinary lift?
- 4) Write notes on the requirements other than the general requirement to ensure fire safety in the case of residential and storage buildings?
- 5) What are the safety measures to be taken in belt conveyor systems?



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FSS010-BSS DIPLOMA IN FIRE & SAFETY ENGINEERING TECHNIQUES

ONE YEAR EXAMINATION NOV-2015

FSS010-05 SAFETY AND PREVENTION IN CHEMICAL/PETRO CHEMICAL INDUSTRIES, REFINERIES

TIME: 3 Hours

Marks: 100

INSTRUCTIONS

- * 33 questions are there in total
- * Write answers to each question in proportion to the mark allotted
- * During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS

1 x 10 = 10

- 1) The flash point of Petrol is _____
- 2) The smell agent added to LPG gas is _____
- 3) Which of the following are the three main elements of WHMIS?
- 4) What materials should you avoid when working with propane?
- 5) If you are required to stop at railroad crossings, you must...
- 6) When transporting both hazardous and non hazardous materials, your bills must.
- 7) When transporting hazardous loads, you must check the tires at least _____
- 8) If you are in an accident involving hazardous materials, you should ____
- 9) What placard must be used with an inhalation hazard load?
- 10) You may not park a vehicle carrying hazardous materials within _____ feet of an open fire.

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Hazards are mainly classified into two categories. What are they?
- 2) What is Lockout?
- 3) Define PPE?
- 4) What is natural gas?
- 5) What is a pesticide?
- 6) What is the definition of a 'hazardous substance'?
- 7) What are exposure standards and where are they listed?
- 8) Does all spray painting have to be carried out in a booth?
- 9) What are flammable and combustible liquids?
- 10) Does the liquid itself burn?

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS**5 x 5 = 25**

- 1) How can we control the hazards?
- 2) Briefly explain about the highly hazardous chemicals?
- 3) What are the causes of major accidents in chemical, oil field?
- 4) Explain the various hazards of combustion?
- 5) What is the difference of onsite and offsite emergency?
- 6) What are the reasons for tank farm trucks?
- 7) How can we suppress substation fires?
- 8) What are the nine classes of hazardous materials?

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS**15 x 3 = 45**

- 1) How can we eliminate the harmful contamination of air and water?
- 2) How often should health surveillance be undertaken?
- 3) Who can be an Appointed Medical Practitioner?
- 4) Explain Static Electricity?
- 5) What considerations do we need to make when shipping a biological substance?



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FSS010-BSS DIPLOMA IN FIRE & SAFETY ENGINEERING TECHNIQUES

ONE YEAR EXAMINATION NOV-2015

FSS010-06 FIRE PREVENTION & CONTROL

TIME: 3 Hours

Marks: 100

INSTRUCTIONS

- * 33 questions are there in total
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- * During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS

1 x 10 = 10

- 1) _____ is a rapid, self - sustaining oxidation accompanied by heat and light in varying intensities
- 2) Compound formed from identical molecules can only be broken down or changed by rearrangement of the atoms, which is known as _____
- 3) _____ can be converted into other forms of energies
- 4) What is industrial Psychology
- 5) Name Fire Personal protective equipments
- 6) Atom can be split by _____
- 7) In a hazardous work area, hot work permit is required for a) Welding b) stress relieving c) Grinding d) all of the above.
- 8) _____ materials should be identified and stored properly.
- 9) _____ gas works by means of smothering the supply of oxygen.
- 10) _____ are created when a center of low pressure develops, with a system of high pressure surrounding it.

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Explain the abbreviation of AFFF and PFFP?
- 2) Explain what is pyrolysis?
- 3) What is FM - 200?
- 4) Explain Infra red detector?
- 5) What is ultra violet detector?
- 6) Explain how the topography of the site plays a role in the disasters caused by floods and cyclones.
- 7) Explain how the shape and orientation of buildings could reduce the damages due to cyclones.
- 8) What is a fire escape in multistoried buildings? What are its requirements?
- 9) Define Disaster Management.
- 10) What is danger?

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS**5 x 5 = 25**

- 1) Explain about any two extinguishing agents?
- 2) Explain about safety audit
- 3) what should one do in case of fire?
- 4) Write any fire types of fire tender?
- 5) What relief works that have to be carried out to save the lives of workers when the factory area is suddenly affected by a dangerous gas leak / sudden flooding?
- 6) What are the difficulties faced by an Industry when there is a sudden power failure?
- 7) What will be the problems faced by the management of an Industry when a worker dies because of the failure of a mechanical device due to poor maintenance? How to manage such a situation?
- 8) How landslides are occurring?

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS**15 x 3 = 45**

- 1) What are the advantages and disadvantages of centrifugal pumps?
- 2) Describe the effects of fire in an unprotected steel beam?
- 3) what are the types foam and foam making equipment
- 4) what are halon 1301 systems?
- 5) what are the steps followed for fire in public places?