# CENTRAL BHARAT SEVAK SAMAJ

**NATIONAL DEVELOPMENT AGENCY, ESTABLISHED IN 1952 BY PLANNING COMMISSION, GOVT. OF INDIA**

**CENTRAL BOARD OF EXAMINATIONS**

**BSS NATIONAL VOCATIONAL EDUCATION MISSION**

## FSS020-BSS DIPLOMA IN FIRE & SAFETY ENGINEERING TECHNIQUES

## TWO YEARS (FIRST YEAR) EXAMINATION NOVEMBER-2025

### FSS020-01 COMMUNICATIVE ENGLISH & COMPUTER FUNDAMENTALS

**TIME: 3 Hours** **Marks: 100**

**INSTRUCTIONS**

* 43 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 - ANSWER FOR ANY 10 QUESTIONS** **1 x 10 = 10**

1) _____ Lotus is lovely flowers

2) Suresh is sitting _____ Ram and Gopal.

3) A cat is _____ the table.

4) I _____ seen the Tajmahal.

5) www stand for _____

6) Word pad is an _____

7) The expanded form of CPU is _____

8) The repair and maintenance of computer devices is called _____

9) Monitor of a computer is a _____ device.

10) _____ generation computer used to integrated circuits.

11) WWW means _____

12) Keyboard shortcut for UNDO command is _____

13) Her uncle lives _____ Chennai.

14) Consonants are _____ in number

15) That is _____ Parrot.

**II. DEFINE THE FOLLOWING - ANSWER FOR ANY 10 QUESTIONS** **2 x 10 = 20**

1) Define what is noun?
2) Define active and passive voice?
3) Hardware
4) CPU
5) Degrees of comparison?
6) Spin box
7) Define software?
8) Web layout?
9) Enter?
10) Adverbs
11) Decimal
12) Define Conjunciton?
13) Define Verb?
14) Explain Cut, Copy, Paste?
15) Informal letter?

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

1) Explain analog and hybrid computer?
2) Print preview?
3) Tool menu?
4) Explain any five options for the format 'menu'?
5) Explain 'find', 'replace' and 'go to'?
6) Title bar?
7) Substance abuse?
8) Explain types of computers?

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

1) Write a letter to the station master requesting him to reserve two coaches for your school excursion party?
2) Write about Parts of speech?
3) Write about INTERNET?

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## FSS020-BSS DIPLOMA IN FIRE & SAFETY ENGINEERING TECHNIQUES

## TWO YEARS (FIRST YEAR) EXAMINATION NOVEMBER-2025

### FSS020-02 ACCIDENT PREVENTION & RISK MANAGEMENT

**TIME: 3 Hours** **Marks: 100**

**INSTRUCTIONS**

* 43 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 - ANSWER FOR ANY 10 QUESTIONS** **1 x 10 = 10**

1) Noise should not exceed the limit of _____ db

2) An accident which does not result any injury|death|any other loss is known as _____

3) An injury due to which an employee cannot join back within 48 hours is called _____

4) Excessive work load is _____ hazards

5) Main reason that cause accidents are _____ and _____

6) Work environment should be _____ and healthy

7) Health hazards such as _____ affect human health

8) A physical harm to the body by _____

9) ILO and NGO stands for _____

10) sliping on wet floor is _____ hazard

**II. DEFINE THE FOLLOWING - ANSWER FOR ANY 10 QUESTIONS** **2 x 10 = 20**

1) What is the use of JSA|JHA
2) Define Safety
3) Define incident
4) Define accident
5) Define injury
6) Define harzard
7) Under which regulation PPE should be supplied to the workers
8) How many types of work permits are there
9) Define health.
10) Define reportable injury

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

1) What are the Catagories of accidents.
2) Explain fire exits
3) Explain risk control method
4) How safety audit is conducted?
5) Classification of and types of accidents
6) Explain unsafe conditions
7) Explain unsafe acts
8) Explain classification of risk

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

1) Explain enforcement of safety laws
2) What is occupational health and safety?
3) How can you catagories the accidents on the nature and type?
4) What are the steps of accident investigation?
5) Explain personal protective equipements

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## FSS020-BSS DIPLOMA IN FIRE & SAFETY ENGINEERING TECHNIQUES

## TWO YEARS (FIRST YEAR) EXAMINATION NOVEMBER-2025

### FSS020-03 FIRE HYDRAULICS & FIRE LOSS CONTROL

**TIME: 3 Hours** **Marks: 100**

**INSTRUCTIONS**

* 43 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 - ANSWER FOR ANY 10 QUESTIONS** **1 x 10 = 10**

1) In co2 gas fire extinguisher the gas filled in _____ states and with _____ bar pressure
2) Hydraulics is the study of _____ and _____
3) _____ the fire fighter can go inside the flame for 30 seconds
4) Capacity of CABA cylinder is _____ liters with _____ bar pressure
5) Operating method of fire extinguisher PASS stand for _____
6) Nozzle is used at the delivery end to increase the _____ into _____
7) At sea level the atmospheric pressure is _____
8) Pressure is required to _____ or _____ water
9) Pressure is force divided over an _____
10) To carry hydrant drill minimum _____ persons are required

**II. DEFINE THE FOLLOWING - ANSWER FOR ANY 10 QUESTIONS** **2 x 10 = 20**

1) How many types of hydrants?
2) How many methods of fire attack?
3) What is atmospheric pressure?
4) How many types of portable fire extinguishers?
5) Which foam concentrate is used in mechanical foam fire ext with how much percentage?
6) Mechanical foam ext is used for which class of fire
7) How many types of water relay systems?
8) In fire hydrants outlet which coupling will be fitted?
9) How many types of breathing apparatus
10) What are the sources of water in fire safety?

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

1) Recharging procedure of foam type extinguisher
2) What are the Parts of water spray system?
3) maintenance of breathing apparatus
4) What is the Body parts of breathing apparatus?
5) Operating procedure of DCP type fire extinguisher
6) Explain Rules of hydrant system.
7) What are the points affecting the fire stream
8) Care and maintenance of extinguisher

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

1) Write about the Operating system of hydrant system.
2) Write about the Importance of water in the fire engineering.
3) Draw neat diagram of co2 extinguisher and explain.
4) Care and maintenance of extinguisher
5) How many types of water spray system explain

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## FSS020-BSS DIPLOMA IN FIRE & SAFETY ENGINEERING TECHNIQUES

## TWO YEARS (FIRST YEAR) EXAMINATION NOVEMBER-2025

### FSS020-04 SAFETY IN ELECTRICAL SYSTEMS

**TIME: 3 Hours** **Marks: 100**

**INSTRUCTIONS**

* 43 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 - ANSWER FOR ANY 10 QUESTIONS** **1 x 10 = 10**

1) Conductors have a _____ resistance

2) Electric Current Measured in _____ Meters

3) Batteries convert chemical energy into _____

4) Electric resistance is typically Measured in _____

5) The Concept of electric fields was first introduced by _____

6) Density of Battery Measured in _____ Meters

7) Electric Power Measured in _____ Meters

8) Frequency of electricity Measured in _____ Meters

9) The wire inside on electric bulb is known as _____

10) Voltage of current Measured in _____ Meters

**II. DEFINE THE FOLLOWING - ANSWER FOR ANY 10 QUESTIONS** **2 x 10 = 20**

1) How many types of transformers?
2) What is Current?
3) What is resistance?
4) What is Voltage?
5) What is Conductor and insulator?
6) How many types of current?
7) What are the electrical safety devices?
8) How can Extend Battery life?
9) Explain the effect of electric current
10) What is short circuit?

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

1) Explain How to avoid electrical accident
2) Explain cell and Battery
3) What are portable fire Extinguisher and fixed installations used on electrical fires
4) What is electric injury and electric shock
5) Explain AC and DC current
6) Effects of electric current
7) Explain Function of Transformer
8) What are the safety devices in electrical?

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

1) Causes of Electrical fires
2) Importance of Electrical safety
3) Reasons for Electrical Accidents
4) Explain first Aid for electrical shock.
5) Give Tips for prevention of electrical fires

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## FSS020-BSS DIPLOMA IN FIRE & SAFETY ENGINEERING TECHNIQUES

## TWO YEARS (FINAL YEAR) EXAMINATION NOVEMBER-2025

### FSS020-09 SAFETY & PREVENTION IN CHEMICAL/PETRO CHEMICAL INDUSTRIES,REFINERIES

**TIME: 3 Hours** **Marks: 100**

**INSTRUCTIONS**

* 43 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 - ANSWER FOR ANY 10 QUESTIONS** **1 x 10 = 10**

1) Always read the _____ label before using the chemicals.

2) _____ procedure to be strictly followed.

3) _____ chemicals must be treated with great care.

4) Petroleum is a _____ and _____ smelling liquid.

5) Petroleum contains _____ and Nitrogen.

6) LPG is a mixture of _____ and _____

7) The people employed in drilling and refineries are _____

8) The self ignition Temperature of petrol is _____

9) LPG stands for _____

10) The petroleum drilling operation area is generally known as _____

**II. DEFINE THE FOLLOWING - ANSWER FOR ANY 10 QUESTIONS** **2 x 10 = 20**

1) Define life safety.
2) Define Near miss accident.
3) Define Hazard
4) Define injury.
5) Define Accident.
6) Define Safety.
7) what are the conventional method of power production?
8) Explain NFPA
9) Explain MSDS
10) Heat treatment processes.

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

1) What is metallurgy?
2) Briefly explain about the highly Hazardous chemicals.
3) Types of metals
4) Safety in oil refinery?`
5) Fire and safety precaution oil in fired stations.
6) Fire Emergency planning
7) Explain lifting equipments and lifting gears.
8) Work permit system

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

1) Explain safety in cylinder Handling.
2) Explain Hose and Hose filtings.
3) Types of pumps and ladders
4) Explain General purpose tools and equipment.
5) Safe work procedure in chemical Industry.

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## FSS020-BSS DIPLOMA IN FIRE & SAFETY ENGINEERING TECHNIQUES

## TWO YEARS (FINAL YEAR) EXAMINATION NOVEMBER-2025

### FSS020-10 FIRE PREVENTION CONTROL

**TIME: 3 Hours** **Marks: 100**

**INSTRUCTIONS**

* 43 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 - ANSWER FOR ANY 10 QUESTIONS** **1 x 10 = 10**

1) _____ is a chemical reaction that releases energy as heat and usually light

2) Fire triangle consist of _____, _____ and _____

3) Class D fire _____

4) _____ is the most common of the hazardous gases contained in smoke.

5) _____ Vapors are heavier than air.

6) _____ are always rotating around the nucleus through an orbit

7) A _____ is formed from two or more different sorts of molecules.

8) What is meant by safety audit

9) ILO was inaugurated in the year a) 1914 b) 1918 c) 1919 d) 1927

10) _____ can be defined as an immediate and essential care given to a person who is injured or suddenlytaken ill, before he is transported to Hospital. a) safety survey b) safety audit c) First aid d) JSA

11) Employment of women in factory are permitted only a) 6 am to 7pm b) 7 pm to 6 am c) 7 pm to 7

12) _____ and _____ are the chemical extinguishment agents

13) A disaster is a result from the combination of _____, _____ and _____

14) _____ aims to reduce flood damage.

15) An _____ is the result of a sudden release of energy in the earth crust that creates

**II. DEFINE THE FOLLOWING - ANSWER FOR ANY 10 QUESTIONS** **2 x 10 = 20**

1) Expand DCP?
2) What is fire point?
3) What are the fire fighting techniques?
4) What are the factors which influence the behavior of the foam?
5) What is warning whistle?
6) What is energy?
7) What is stand-by pump?
8) Explain Aragonite?
9) What are the types of fire detectors are designed?
10) What radiant energy will be form if hot 'gases' fire releases?
11) What is sprinkler system?
12) What is ordinary hazards?
13) Define span of disaster mitigation?
14) Define pass?
15) Explain Fire?

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

1) Explain the classifications of the fire?
2) Explain the responsibilities of safety officer?
3) Write notes on the employees state Insurance act 19487?
4) What are the fire precautions needed while cooking?
5) Write any fire types of fire tender?
6) What are the difficulties faced by the Management when there is a group clash between the workers? How such a situation could be managed?
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) Explain the necessity of proper training to the employees of Industries dealing with hazardous products, to act during disasters?

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

1) what are the types of positive displacement pump and its Explain?
2) a) what are the types foam and foam making equipment b) what are the types of fire fighting techniques?
3) Explain the types of breathing apparatus and it body parts?
4) Explain the transmission of heat and its methods?
5) Impact of disaster and disaster management in India - Discuss?

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## FSS020-BSS DIPLOMA IN FIRE & SAFETY ENGINEERING TECHNIQUES

## TWO YEARS (FINAL YEAR) EXAMINATION NOVEMBER-2025

### FSS020-11 FIRE & SAFETY ENGINEERING

**TIME: 3 Hours** **Marks: 100**

**INSTRUCTIONS**

* 43 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 - ANSWER FOR ANY 10 QUESTIONS** **1 x 10 = 10**

1) For K Class of fire _____ extinguisher is required.

2) For B Class of fire _____ extinguisher is required.

3) For C Class of fire _____ extinguisher is required.

4) For E Class of fire _____ extinguisher is required.

5) For D Class of fire _____ extinguisher is required.

6) If we remove material from fire is called _____

7) If we remove oxygen from fire is called _____

8) Fire is _____ reaction.

9) Elements required in fire triangle are _____

10) Most commonly pump used in fire science is _____

11) A class of fire is called _____ Fire.

12) B class of fire is called _____ Fire.

13) C class of fire is called _____ Fire.

**II. DEFINE THE FOLLOWING - ANSWER FOR ANY 10 QUESTIONS** **2 x 10 = 20**

1) What is fire?
2) Sketch the fire tetrahedron?
3) What is calorie?
4) What is flash point?
5) What is fire point?
6) Write the name of water type extinguishers?
7) What id delivery hose?
8) What is hose reel hose?
9) What is hose ramp?
10) What is starvation?
11) What is cooling?
12) What is D Class of fire?
13) What is B class of fire?

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

1) What is fire triangle explain in detail?
2) Explain classification of fire?
3) Explain fire extinguishing method?
4) Explain type of burns / scalds?
5) Write in detail the transmission of heat?
6) What is breechings and explain type of breechings?
7) What are smoke detectors and its types?
8) Explain the classification of hazardous chemicals?

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

1) Explain the CO2 extinguisher in detail with sketch?
2) What first aid measures are taken for burns?
3) Explain Dry chemical powder extinguisher?
4) What is a branch? Explain London Branch and diffuser branch with sketch?
5) What are fuels and its type explain in detail?