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

TTS014-INSTRUMENT TECHNICIAN

ONE YEAR EXAMINATION NOVEMBER-2025

TTS014-01 COMMUNICATIVE ENGLISH AND 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) One day _____ Old man came to my village.

2) Noun is a _____ Word

3) Suresh is sitting _____ Ram and Gopal.

4) A cat is _____ the table.

5) I _____ seen the Tajmahal.

6) It is cold today _____

7) Get up _____

8) It is believed that _____ Apple _____ day keeps the doctor away.

9) Basic working platform of the computer is the _____

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

11) _____ is a folder, stores the deleted files

12) _____ is the most widely used sprea sheet package

13) A to Z key are known as _____ keys

14) Scanner is a _____ device

15) This is _____ food

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

1) Define kinds of noun?
2) Define indefinite Article?
3) Define punctuation?
4) What is meant by singular number? Example:-
5) What is meant by weak verbs?
6) Explain UNIX
7) What is the difference between Notepad and Wordpad
8) What is the difference between Copy and Move
9) Word screen
10) Network
11) Noun phrase
12) Insert column and insert chart
13) What is colour?
14) Define WWW in internet.
15) Informal letter

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

1) Define kinds of adjectives
2) Explain telephone ediquette?
3) Explain RAM and ROM
4) Explain Arithmetic logic unit
5) Spin box
6) Shutdown the computer
7) Define A, B, C in CPR?
8) Write briefly about direct speech and indirect speech?

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

1) Write what in complex sentence
2) Explain a computer and draw a block diagram
3) Write all Internal Commands in dos and explain it.
4) Write the types of Charts in EXCEL.
5) Describe MS Windows

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TTS014-INSTRUMENT TECHNICIAN

ONE YEAR EXAMINATION NOVEMBER-2025

TTS014-02 INSTUMENT TECHNOLOGY - THEORY

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) Vibration sensor is used for measuring _____

2) 1 bar = _____ kg

3) Siphon gauge is used for _____

4) Absolute pressure = _____ + _____

5) One of the Temperature unit is _____

6) 1Kg/cm2 = _____ mm H2O

7) K type thermocouple combination _____ and _____

8) 100C = _____ 0F

9) Span = _____

10) The Invar consists of _____ % of nickel

11) Flow is always measured in _____ mode

12) In a control valve, AFO means _____

13) Pure water pH is _____

14) The full form of PLC _____

15) Trim is a matched pair of _____ and _____

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

1) Explain the working principle of RTD
2) Compare the different temperature scale
3) Define calibration & accuracy
4) Draw a neat sketch of Type bourdon tube and mark its parts
5) Explain how to carry out a field zero check on a pressure transmitter
6) RTD's are using three wires. why?
7) Explain seeback effect
8) What is weep hole? Where it is used in gas line and liquid line
9) What is gland packing? Name commonly used gland packing
10) What arfe the functions of instrument
11) Why lead wire compensation is using
12) Write the three flow elements
13) Why diaphragam gauges are used in low range

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

1) Which instrument is widely used for interface level measurement? Explain?
2) Explain different types controller
3) Explain with the help of neat diagram, pressure transmitter calibration using dead weight testers
4) What is open loop and closed loop? Explain with diagram
5) Explain control valve calibration procedure with diagram
6) Write the full form of DCS, PLC, C, P & ID, PSV and TIC
7) Explain pneumatic transmitter calibration procedure with diagram
8) Electronic pressure transmitter range is 0 to 12 kg/cm2. Find I/P & O/P for five point calibration. If I/P is 3.5kg/cm2, What is the O/P?

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

1) Draw and explain gas/liquid impulse line connection to D/P transmitter
2) Draw a neat sketch of air to open control valve and explain important parts.

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TTS014-INSTRUMENT TECHNICIAN

ONE YEAR EXAMINATION NOVEMBER-2025

TTS014-03 INSTURMENT TECHNIQUES

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 system in which two electrodes are in contact with the electrolyte

2) An alternator converts mechanical energy into _____

3) The reciprocal of resitivity of a conductor is called _____

4) The minimum seperation between pair of atoms in amolecule is called _____

5) The vacancy created by an electron is called _____

6) The energy possesed by a body by virtue of its velocity is called _____

7) _____ is the material obtained by losing or gaining of electrons

8) The sharing of electrons to form a molecule is called _____

9) The energy possesed by a body by virtue of its position _____

10) The property of a conductor to oppose the flow of electrons is called _____

11) The resistance offered by a material of wire having 1m length and an area of cross section is called _____

12) The difference in the potential of two charged bodies is called _____

13) _____ are the majority carriers in P type material

14) _____ are the majority carriers in N type material

15) The change of potential per unit distance is called _____

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

1) Distinguish between series and parallel circuit
2) Explain one ampere and one volt
3) State kirchoffs current and voltage law
4) What is the difference between A.C and DC
5) Explain forward bias and reverse bias
6) How zener diode can be used as avoltage regulator
7) What is CB, CE and CC configuration
8) What is meant by Thyristor? What are the uses of a thyristor
9) Explain diode and peak inverse voltage
10) What is meant by displacement current

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

1) Explain the laws of electro magnetic induction
2) What are the different types of errors
3) What is the use of a filter
4) Name the advantages of a cover D.C
5) What is meant by rectification? Explain efficiency and ripple factor
6) What is the difference between instrinsic and extrinsic semi conductors
7) Explain absolute permeability and relative permeability
8) Distinguish between primary and secondary cell

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

1) What are logic gates? Name the universal gates and explain the working of them with suitable truth table
2) Explain the working of a half wave and full wave rectifier with necessay diagrams.