



భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్  
भारतीय प्रौद्योगिकी संस्थान हैदराबाद  
Indian Institute of Technology Hyderabad

Advt. No. IITH/2023/NF/15

Question Paper Code:

Application Number of the Candidate

Name of the Post: Junior Technical Superintendent -Central Workshop (12.2)

Pay Level: 06

Date & Time of the Exam: 6 Dec 2023, 9.00 am

Duration: 01 hr. 30 min

Scheme of the Exam:

Topic	Number of Question	Marks
General English (Communication Skills)	10	10
General Arithmetic		
Reasoning		
Work Related Topics	40	40

Instructions to fill the responses in the OMR answer sheet:

1. Candidate must write his/her **application number** in the designated box on the top of OMR answer sheet.
2. Candidates must write the post code and Question paper code in the designated boxes on the top of OMR answer sheet.
3. Candidates must sign in the box provided in the OMR answer sheet.
4. Each answer sheet must be signed by the invigilator in the space printed in the OMR answer sheet.
5. Only one response to be selected & marked. In case more than one response is marked for a single question or no response is marked for a question, no marks will be awarded for that question.
6. Partially filled circles shall not be considered as responses.
7. Erasing or changing of answer is not allowed.
8. No negative marking
9. Candidate must use Blue/Black ball point pen to fill his/her responses.
10. Rough work should not be done on the OMR answer sheet.
11. Candidates can use the designated page(s) of the question booklet for the purpose of rough work.

1	Choose suitable "wh" word for the given sentence_ "_____ are you angry?"
A	Which
B	Why
C	Who
D	What

2	Which one is NOT a vowel?
A	A
B	E
C	O
D	Z

3	Choose the correct tense of the verb. "I _____ music next year."
A	learn
B	am learning
C	will learn
D	learnt

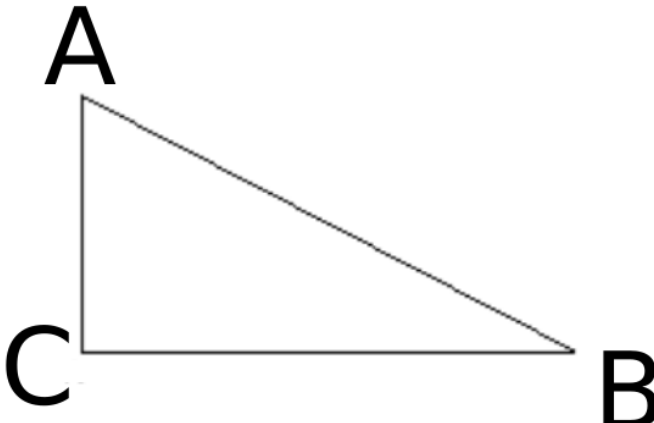
4	Fill in the blank with comparative adjectives. "Your knife is _____ than mine".
A	sharp
B	sharper
C	blunt
D	thick

5	Fill in the blank with correct word "They _____ good friends"
A	is
B	am
C	were
D	was

6	What are fundamental units?
A	Length, Mass, Volume
B	Length, Mass, Area
C	Length, Pressure, Volume
D	Length, Mass, Time

7	What is the unit of mass?
A	grams
B	pounds
C	tonnes
D	All of the above

8	What is the x value for $x^2 + 66 = 102$ ?
A	10
B	8
C	6
D	4

9	<p>What is the side AB, if BC = 8 cm and AC = 6 cm?</p> 
A	5 cm
B	8 cm
C	10 cm
D	12 cm

10	How many days will a mechanic take to assemble 64 machines if he assembles 8 machines in 4 days?
A	8 days
B	16 days
C	24 days
D	32 days

11	The quality control allows at the most 0.4% defective parts. How many defective parts can be allowed in a production of 5000 parts?
A	10
B	20
C	100
D	200

12	Which code is used for "Circular interpolation clockwise direction"?
A	G01
B	G02
C	G03
D	G00

13	What is the purpose of a circlip
A	Deburring hole ends
B	Accommodating circlipping screws
C	To accommodate socket head screws
D	To lock the position

14	A shaft whose upper deviation is zero is called a basic shaft, which one of the following letters indicates a basic shaft?
A	e
B	f
C	g
D	h

15	There are two types of milling processes based on the direction of cutter rotation and work feed direction. Which of the following represents the down-milling operation?
A	The work is fed in the same direction as the rotation of the cutter
B	Chip removal starts at the thinnest part
C	The work is fed against direction of the cutter rotation
D	None of the above

16	Why the balancing weight is provided in the milling fixture?
A	To guide tool
B	To balance the tool
C	To eliminate backlash
D	None of the above

17	Which gauge is used to check the gap between the mating parts?
A	Slip gauge
B	Plug gauge
C	Feeler gauge
D	Radius gauge

18	Why is the annealing process carried out in steel?
A	To add cutting ability
B	To relieve strain and stress
C	To decrease the hardness
D	All of the above


19	Which of the following material has the highest carbon percentage?
A	Mild steel
B	EN8
C	EN24
D	EN31

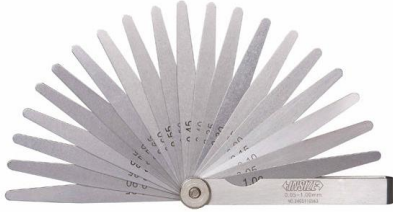
20	Which property is necessary for the material of slip gauge block?
A	Hardness
B	Thermal expansion
C	Wear resistance
D	All of the above

21	A woodruff key is should be used for
A	Non tapering shafts
B	Tapering shafts
C	Serrated shafts
D	Splined shaft

22	The automatic feeding of the tool in a conventional lathe is powered by
A	Lead screw
B	Feed rod
C	Split nut
D	All of the above

23	What is the pitch of multi start thread?
A	Lead / no of starts
B	Lead x no of starts
C	Lead x major diameter
D	Leadz x minor diameter

24	Which screw type is not shown below
	
A	Hexagon head screw
B	Grub screw
C	Square head screw
D	Socket head screw

25	What is the name of gauge shown below?
	
A	Pitch gauge
B	Taper gauge
C	Feeler gauge
D	Taper-round gauge

26	What is the negative of the ratio of the strain in lateral dimension to the longitudinal strain?
A	Stress
B	Strain
C	Poisson's ratio
D	Factor of safety

27	How much strain is developed in an iron rod of 10 metre length that gets elongated by 1 cm, if a force of 100 kg is applied at one end?
A	0.1
B	0.01
C	0.001
D	0.0001

28	Which type of machines can be used to make a woodruff key?
A	Lathe and Shaper
B	Lathe and wire-cut EDM
C	Lathe and milling
D	All of the above

29	Which of the below is an important part of a CNC machine?
A	ATC
B	ATM
C	UTM
D	UTC

30	When acceleration is _____, velocity of a particle is constant.
A	constant but non zero
B	Zero
C	Minimum
D	Maximum

31	Which motor does not controls the axes of the table of a CNC machine?
A	Air motor
B	DC series motor
C	Hydraulic motor
D	All of the above


32	Which code describes the auxiliary function of a CNC machine?
A	N - words
B	F - words
C	A - words
D	None of the above

33	What is "G40" in program?
A	Cutter radius compensation lift
B	Cutter compensation cancel
C	Cutter radius compensation right
D	Cutter offset outside complex

34	What does 1.25 stands for a metric thread designated as M16 x 1.25?
A	Major dia of thread
B	Minor dia of thread
C	Pitch of the thread
D	Depth of thread


35	Calculate the driven gear to cut 4 mm pitch thread on a job using a lathe having lead screw of 4mm pitch with driver gear 30 teeth?
A	30
B	60
C	90
D	120

36	What is removing dull grain in order to make a grinding wheel sharp?
A	Loading
B	Glazing
C	Sharpening
D	None of the above

37	What is the type of screw head? 
A	Hexagon socket head cap screws
B	Hexagon head screws
C	Countersunk head screws
D	Raised cheese hand screws



38	When two resistors of resistance R are connected in series, their effective resistance is
A	$R/2$
B	R
C	$3R/2$
D	2R

39	What is the name of bearing? 
A	Needle bearing
B	Thrust ball bearing
C	Taper roller bearing
D	Angular contact ball bearing

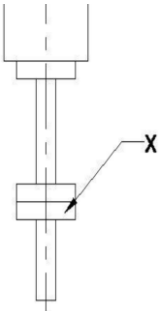
40	Which method is used to avoid machine collision in VMC during initial practice?
A	Simulation
B	Auto cycle
C	Manual method
D	Jog method

41	Which of the following is a typical composition of high speed steel?
A	18% Vanadium, 4% Chromium and 1% Tungsten
B	18% Chromium, 4% Tungsten and 1% Vanadium
C	18% Tungsten, 4% Vanadium and 1% Chromium
D	18% Tungsten, 4% Chromium and 1% Vanadium

42	Knurling is a _____ operation.
A	Cutting
B	Rolling
C	Forming
D	Turning

43	Which of the forming can be done on a lathe?
A	Roll forming
B	Upsetting
C	Spin forming
D	Deep drawing

44	A component distorts after welding due to
A	Residual stresses
B	Blow holes
C	Internal cracks
D	Internal cavities

45	What is marked as 'x' with reference to CNC machine? 
A	Test arbor
B	Edge finder
C	Cutter arbor
D	Boring bar

46	In a CNC Program Block  N10 G02 G91 X 52 Z 25 .....  G02 represents:
A	Circular clockwise interpolation
B	Linear interpolation
C	Incremental command
D	Absolute command







