WORKSHOP TECHNOLOGY 2007 - NECTA FORM FOUR

Solutions from: Maktaba by TETEA

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1.

i	ii	iii	iv	v	vi	vii	viii	ix	x
D	E	B	B	B	E	E	E	D	D

2.-positive allowance

-negative allowances.

3.Ranges of metric micrometer s are

0-25mm,25-50mm and 50-75mm.

4.types of electric furnaces are

-electric arc furnace

-high frequency furnace.

5.alloy elements in cast iron are

-silicon

-carbon

-manganese

6.semi-finished products are

-square billets

-blooms

-beam blanks.

7.kinds of grinding wheels are

-straight wheels

-cutting face wheels

8.(a)haematite

(b) magnesium carbonate.

(c) bauxite.

9(a)case hardening

(b)tempering

10.types of cutting fluids

-soluble oil

-straight cutting fluid

-synthetic oil.

11.forms of material supply

-sections

-sheets

-strips

-tube bars

12.(a)dimension is the note that define the geometry and the manufacturing of the object.

(b)maximum allowance is the minimum clearance between parts.

(c)minimum allowance is the maximum interference between parts.

(d)tolerance is the difference between maximum limit and minimum Limit.

(e)limits are the extremely permissible size with which the operator is expected to make a component.

13.(a)(i) Annealing process i.e softening

(ii)hardening process.

(b)when steel is heated to lower critical point it transforms from austenite to pearlite.

14.(a)the unbalanced wheel will show much vibrations when the grinder is operating.

(b)

- **Truing :**

Truing is the process **of** changing **the** shape of **the** grinding wheel as it becomes worn from an original shape, owing to the breaking away of the abrasive and bond. This is done to make the wheel true and concentric **with** the bore, **or to** change the face contour for form grinding. Truing and dressing are done with the same tools, but not for the same purpose

15.(a)-hand feed

-power feed.

(b)function of T-slot is to hold or to fastern the workpiece.

(c)

Step 1 - Open the Lid

First, unplug the press and locate the lid on top of the drill press with a knob on it. Lift the lid to access the motor.

Step 2 - Loosen the Locking Bolt

Loosen the locking bolt to change the speed of the drill press. To do so, turn the bolt counterclockwise for two to three whole turns.

Step 3 - Move Motor and Motor Pulley

Bring the motor and pulleys closer together by slowly pushing them side by side. They will need to be close to the spindle bit.

Step 4 - Choose Your Speed Setting

You can now review the chart and pick the spindle speed you will require for your project.

Step 5 - Put Belt on the Right Pulley Set

Once you know which pulley set you wish to use, slide the belt to the correct set you will be using.

Step 6 - Slide Motor Back and Tighten Locking Bolt

You can now move the motor back into the original position and tighten the **locking bolt**. Close the lid and plug it back into the power source.

16.(a)metal that replaced wrought iron is mild steel.

(b) machining of wrought iron is difficult because it is tough.

(c)pure iron contains about 99.9% iron

(d)

Properties of Wrought Iron

1.Wrought iron is very malleable and ductile
2.Its tensile strength is 20-26 tons /in2
3.It is strong in compression but not so strong as steel
4.It can be easily worked, welded and is tough
5.Its melting point is 28000F
6.Wrought iron became pasty and very plastic at red heat and could be easily forged at about 16500F

USES:

Since mild steel has replaced the wrought iron, therefore it is no longer produced in large extent. Still in use for roof sheets, wires and metal ornaments etc