

MSE 426
Heat Treatment of Materials
(2024-2025 SPRING)
Assignment 2

- 1- Pig iron is produced from iron ore using
- ☐ Blast Furnace
 - ☐ Basic Oxygen Furnace
 - ☐ Cupola Furnace
 - ☐ Electric Arc Furnace
 - ☐ None of them
- 2- Which one of the followings is the correct order for production of steel sheets made of SAE 1020?
- ☐ Forging of iron ores → melting and casting → hot rolling
 - ☐ Pig iron production from ores → steel making → continuous casting for slab production → hot/cold rolling
 - ☐ Pig iron production from ores → steel making → forging of steel → cold rolling
 - ☐ Steel making from ore → extrusion → forging
 - ☐ Pig iron production from ore → melting and casting → extrusion → forging
- 3- What is the carbon content of SAE 1040 steel?
- ☐ 1.04 wt.%
 - ☐ 0.104 wt.%
 - ☐ 0.4 wt.%
 - ☐ 4 wt.%
 - ☐ 1.0 wt.%
- 4- Plain carbon steels contain
- ☐ only Fe and C
 - ☐ Fe, C and undesired P,S
 - ☐ Fe, C and Mn, Si, Al and some undesired elements like P,S
 - ☐ Fe, C and some alloying elements such as Cr, Mo
 - ☐ none of them
- 5- What is heat treatment of metals?
- ☐ Melting and casting of the metals conducted for changing the properties
 - ☐ Hot forging of the metals conducted for changing the properties
 - ☐ Heating and cooling cycles, which aim to change the properties
 - ☐ It is the treatment which changes the macrostructure of metals
 - ☐ It is a performance index of the metals
- 6- Heat treatment operation changes.....
- ☐ type of phases present in the material
 - ☐ amount of phase in the material
 - ☐ microstructure of the material
 - ☐ mechanical properties of the material
 - ☐ all of them
- 7- Hardness of plain carbon steels increases by increasing the carbon content.....**T F**