

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**