BRAINWARE UNIVERSITY

Term End Examination 2021 - 22
Programme – Diploma in Mechanical Engineering
Course Name – Manufacturing Processes
Course Code - DME304
(Semester III)

Time : 1 Hr.15 Min. **Full Marks : 60**

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question) 1 x 60=60

Choose the correct alternative from the following :

(1) Which of the following is the component of foundry sand?
a) river sand
b) moisture
c) clay
d) all of these

(2) Which of the following is not included in forming and shaping process?
a) rolling
b) sheet forming
c) forging
d) broaching

(3) Which of the following is included in machining process?
a) extrusion
b) drilling
c) soldering
d) coating

(4) Which of the following is not the type of joining process?
a) adhesive bonding
b) brazing
c) none of these
d) soldering

(5) Which of the following is the type of permanent joining process?
a) welding
b) soldering
c) both welding and soldering
d) none of these

(6) Which of the following is the type of temporary joining process?
a) brazing
b) mechanical joining
c) welding
d) all of these

(7) In ____type of manufacturing process, material is wasted. It is in the form of chips
a) machining process
b) casting
c) joining process
d) all of these

(8) Which of the following is the most basic structural unit of matter?

a) Atom
b) Crystal
c) Element
d) Molecule

(9) Which of the following is not matched correctly with respect to the manufacturing process and their condition of matter subtraction/addition?

a) Casting Constant material volume retained
b) Machining Material removal process
c) Forming Material addition process
d) None of these

(10) Which of the following statement is true corresponding to the bonding of solids?

a) Attractive force results between two nuclei
b) Repulsive force results between atoms
c) Attractive force increases with the decrease in distance between the two entities
d) All of these statements are true

(11) The property of a material by which it can be beaten or rolled into thin sheets is called:

a) Elasticity
b) Ductility
c) Malleability
d) Plasticity

(12) Which of the following pattern is used to produce a number of castings?

a) loose piece pattern
b) split pattern
c) gatted pattern
d) none of these

(13) The pattern used for mass production is,

a) match plate pattern
b) split pattern
c) skeleton pattern
d) single plate pattern

(14) In casting, the amount of draft (in mm per metre) on exterior surfaces is about

a) 44105
b) 20-30
c) 30-40
d) None of these

(15) Projection welding is,

a) Multi-spot welding process
b) Continuous spot welding process
c) Used to form mesh
d) None of these

(16) Submerged arc welding is,

a) A process in which arc is maintained under a blanket of flux
b) A process which uses a mixture of iron oxide and granular aluminium
c) Accomplished by maintaining a hot molten metal pool between plates
d) all of these

(17) Arc-welding uses following electric supply,

a) A.C.
b) D.C.
c) Both AC and DC
d) Spiral waveform

(18) The most commonly used flame in gas welding is,

a) Neutral
b) Oxidising
c) Carburising
d) all of these

(19) Thermit welding,

a) A process which uses a mixture of iron oxide and granular aluminium
b) Accomplished by maintaining a hot molten metal pool between plates
c) A process in which arc is maintained under blanket of flux
d) In no welding process

(20) In MIG welding, the metal is transferred in the form of

a) A fine spray of metal
b) Weld pool
c) Molten drops
d) all of these

(21) Manufacturing is a process of converting raw material of
a) Low value to high value
b) No value change
c) High value to low value
d) all of these

(22) Hardening during sheet metal forming of carbon steel primarily occurs due to,
a) Work hardening
b) Solid solution strengthening
c) Precipitate hardening
d) Transformation hardening

(23) The process generally preferred for manufacturing of wheels and pulleys is,
a) Extrusion
b) Rolling
c) Machining
d) None of these

(24) Solidification temperature range is shown by,
a) Pure metals
b) Eutectic Alloys
c) Other than Eutectic alloys
d) all of these

(25) Machinability of the material, that are machined by the conventional method is poor fo r the,
a) Low hardness materials
b) High hardness materials
c) Low strength materials
d) Ductile materials

(26) Lean manufacturing is based on,
a) CNC connected system
b) Rapid prototyping
c) Inventory strategy
d) Reducing waste

(27) Parameters primarily considered for selection of a manufacturing process for a given pr oduct Are
a) Product features and operational cost
b) Roughness and tolerance
c) Flatness and accuracy
d) All of these

(28) Primary shape of large size components like Girth gear, large diameter shaft etc. is reali zed through,
a) Forming
b) Casting
c) Machining
d) Joining

(29) Hand tools like wrenches, spanner and hammer etc. are made by the process of,
a) Forming
b) Forging
c) Machining
d) Joining

(30) Transformation hardening in high carbon steels due to heating and cooling cycle is cau sed by,
a) Precipitates
b) Change of phase
c) Dislocations
d) Second phase particles

(31) Sand casted product are characterized as,
a) High tolerance limit and poor surface finish
b) Low tolerance limit and good surface finish
c) Low tolerance limit and poor surface finish
d) High tolerance limit and good surface finish

(32) Metal having higher specific heat generally offers,
a) Lower fluidity
b) Higher fluidity
c) Moderate fluidity
d) Can't relate to fluidity

(33) Chills are primarily used in mould to,

a) Achieve directional solidification
b) Reduce possibility of blow holes
c) Reduce the solidification time
d) Smoothen the metal by reducing spatter

(34) Component used to support the core in the mould cavity is,

a) Chills
b) Core
c) Riser
d) Chaplet

(35) Negative allowance provided on the pattern is

a) Draft allowance
b) Machining allowance
c) Distortion allowance
d) Shake allowance

(36) The part of gating system which regulates the rate of pouring of molten metal in the mould is,

a) Runner
b) Pouring basin
c) Choke
d) Riser

(37) Green sand mould indicates that,

a) Polymeric mould has been cured
b) Mould has been totally dried
c) Mould is green in colour
d) Mould contains moisture

(38) Spiral test is conducted to measure the

a) Hardenability of the metal
b) Fluidity of the molten metal
c) Flowability of the sand
d) Viscosity of the molten metal

(39) Friability and crumbling property provides the core,

a) Ability to withstand high temperature
b) Easy breaking
c) High strength
d) Cohesiveness

(40) Converging passage in sprue and runner of a gating system for feeding the liquid molten metal into the mould helps in,

a) Increasing the rate of feeding
b) Breaking off the protruding portion of the casting
c) Avoiding the aspiration of air
d) Decreasing wastage of cast material

(41) Cold shut in casting occurs due to,

a) Sand sliding from the cope surface
b) Internal voids or surface depression due to excessive gas trapped
c) Discontinuity resulting from contraction
d) Improper mixing of two streams of molten metal that are too cold to fuse/mix properly with each other in the mould

(42) Dross formation tendency generally higher in case of,

a) Top gating
b) Bottom gating
c) Step gating
d) None of these

(43) A sand casting mould assembly is shown in the given figure. The elements marked A and B are respectively,

a) Sprue and riser
b) In gate and riser
c) Drag and riser
d) Riser and runner

(44) Casting defect caused by poor moulding strength

a) Blow holes
b) Pin hole porosity
c) Swell
d) Hard spot

(45) Poor ramming during the mould preparation causes

a) Drop
b) Air inclusion

c) Hot tears
d) All of these

(46) Investment casting is preferred for manufacturing of,

a) Turbine blade
b) Turbine rotor
c) Connecting rods
d) Cast iron pipes

(47) Minimum temperature at which new grains are formed in metal is called,

a) Eutectic temperature
b) Recrystallization temperature
c) Eutectoid temperature
d) Peritectic temperature

(48) A forging method for reducing the diameter of a bar and in the process making it longe r is termed as,

a) Fullering
b) Punching
c) Upsetting
d) Blanking

(49) In wire drawing process, the bright shining surface on the wire is obtained if one,

a) Not using a lubricant
b) Low tooling cost
c) Uses thick paste lubricant
d) Use thin fluid lubricant

(50) Hydraulic press is used for the,

a) Small capacity
b) High capacity
c) Medium capacity
d) All of these

(51) A type of cracking also known as delayed cracking is,

a) Solidification cracking
b) Liquation cracking
c) Hydrogen-induced cracking
d) Underbead cracking

(52) Too low welding current in arc welding would result in,

a) Excessive piling up of weld metal, poor pene tration, wasted electrodes
b) Excessive spatter, under cutting along edges, irregular deposits, wasted electrodes
c) Too small bead, weak weld, and wasted elect rodes
d) None of these

(53) Too high welding current in arc welding would result in,

a) Excessive piling up of weld metal, poor pene tration, wasted electrodes
b) Excessive spatter, under cutting along edges, irregular deposits, wasted electrodes
c) Too small bead, weak weld, and wasted elect rodes
d) None of these

(54) Too fast welding speed in arc welding would result in,

a) Excessive piling up of weld metal, poor pene tration, wasted electrodes
b) Excessive spatter, under cutting along edges, irregular deposits, wasted electrodes
c) Too small bead, weak weld, and wasted elect rodes
d) None of these

(55) The melting point of the filler metal in brazing should be above

a) 420o C
b) 820o C
c) 1020o C
d) 1200o C

(56) In resistance welding the electrode material is made of.

a) Carbon steel
b) Stainless steel
c) Copper
d) High speed steel

(57) Which type of electrode is used in submerged arc welding

a) Bare rods
b) Coated electrodes
c) Core wires
d) None of these

(58) Seam welding is,

a) Arc welding

b) Multi spot welding

c) Continuous spot welding

d) Gas welding

(59) Flash butt welding is

a) Gas welding

b) Arc welding with straight polarity

c) Arc welding with reverse polarity

d) Resistance welding

(60) The suitable welded material used in TIG welding is

a) Aluminium

b) Stainless steel

c) Magnesium

d) all of these