

## PROVISIONAL ANSWER KEY

Question 129/2024/OL

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Exam: junior Instructor in Plastic Processing Operator

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Department Industrial Training

Question1:-Don't use ties or scarves inside a work shop. The safety practice comes under

A:-General safety

B:-Personal safety

C:-Machine safety

D:-Industrial safety

Correct Answer:- Option-B

Question2:-The term PPE, stands for, with respect to safety in an engineering industry

A:-Personal Protective Equipment

B:-Property plant and equipment

C:-Philosophy politics and economics

D:-None of the above

Correct Answer:- Option-A

Question3:-Under which class of fire, gas and liquid gas are classified

A:-Class A

B:-Class B

C:-Class C

D:-Class D

Correct Answer:- Option-C

Question4:-Select from the following extinguishers, which is not suitable for electrical equipment ?

A:-Carbon dioxide

B:-Dry powder

C:-CTC existinguisher

D:-Foam extinguisher

Correct Answer:- Option-D

Question5:-If the belt of a drilling machine is positioned between smallest pulley on driver side and biggest pulley on driven side, the spindle speed will be

A:-Maximum

B:-Normal

C:-Minimum

D:-No change, only torque changes

Correct Answer:- Option-C

Question6:-The point angle of a punch which is used for locating center of holes and for providing good seating for starting a drill

A:-30°

B:-45°

C:-60°

D:-90°

Correct Answer:- Option-D

Question7:-Heat treatment process done on the face and peen of a hammer is

A:-Tempering

B:-Case hardening

C:-Hardening

D:-Tempered and normalized

Correct Answer:- Option-B

Question8:-Which one of the following files have a safe edge

A:-Hand file

B:-Flat file

C:-Rasp cut file

D:-Square file

Correct Answer:- Option-A

Question9:-Select from the following grade of a V block, which are more accurate and made of high quality steel

A:-Grade A

B:-Grade B

C:-Grade C

D:-Grade D

Correct Answer:- Option-A

Question10:-The clamps provided with V blocks for holding cylindrical jobs

A:-G clamp

B:-C clamp

C:-U clamp

D:-L clamp

Correct Answer:- Option-C

Question11:-The least count of a vernier bevel protractor is found by

A:-2vvd-1msd

B:-1msd-1vvd

C:-1vvd-1msd

D:-2msd-1vvd

Correct Answer:- Option-D

Question12:-The purpose of rake angle provided on a lathe side cutting tool is

A:-For additional strength

B:-To control the chip flow

C:-To prevent the tool from rubbing with the job

D:-To absorb sudden loads

Correct Answer:- Option-B

Question13:-The property of a good cutting tool material, which will avoid the breakage of cutting edge

A:-Toughness

B:-Strength

C:-Cold hardness

D:-Red hardness

Correct Answer:- Option-A

Question14:-Find the number of teeth on a driver wheel required to cut a thread of 1.5 mm pitch, if the lathe have a lead screw of 5 mm lead and 100 teeth on driven side

A:-10 teeth

B:-20 teeth

C:-30 teeth

D:-15 teeth

Correct Answer:- Option-C

Question15:-The most common method of producing threads on non-metal jobs are

A:-Thread rolling

B:-Thread casting

C:-Thread grinding

D:-Thread milling

Correct Answer:- Option-B

Question16:-What is the resistivity of mercury at 20° centigrade ?

A:- $95.8 \times 10^{-8}$

B:- $95.8 \times 10^{-7}$

C:- $95.8 \times 10^{-5}$

D:- $95.8 \times 10^{-6}$

Correct Answer:- Option-A

Question17:-What is resistance between ear to ear ?

A:-About 10 ohms

B:-About 100 ohms

C:-About 30 ohms

D:-About 400 ohms

Correct Answer:- Option-B

Question18:-What is the resistance of a conductor if whose diameter is reduced to half of its original diameter ?

A:-Increase to 2 times

B:-Increase to 3 times

C:-Increase to 4 times

D:-Increase to 8 times

Correct Answer:- Option-C

Question19:-What is the temperature co-efficient of German silver at 20°C ?

A:- $0.27 \times 10^{-4}$

B:- $2.7 \times 10^{-4}$

C:- $0.27 \times 10^{-4}$

D:- $2.7 \times 10^{-4}$

Correct Answer:- Option-D

Question20:-Which type of fuse used up to and including 63A ?

A:-DN type fuses

B:-HM type fuses

C:-IS type fuses

D:-DZ type fuses

Correct Answer:- Option-D

Question21:-The first polymer made from synthetic material

A:-SBR

B:-Celluloid

C:-PF resin

D:-Cellulose acetate

Correct Answer:- Option-C

Question22:-Hardness of Nylon is measured using

A:-Shore A Durometer

B:-Shore A Durometer

C:-Rockwell Hardness tester

D:-All of these

Correct Answer:- Option-C

Question23:-The trade name SARAN is related to

A:-Styren acrylonitrile copolymer

B:-Acrylonitrile butadiene styrene copolymer

C:-Poymethylmethacrylate

D:-Vinylidene chloride copolymer

Correct Answer:- Option-D

Question24:-Which of the following polymer have lowest coefficient of friction ?

A:-PET

B:-PE

C:-PP

D:-PTFE

Correct Answer:- Option-D

Question25:-Which of the following thermoplastic material is hygroscopic ?

A:-PP

B:-Nylon

C:-PS

D:-PF

Correct Answer:- Option-B

Question26:-Which of the following features are true for Polycabonate ?

a) Toughness upto 140° C

b) Self extinguishing

c) Very good resistance to chemicals and UV light

d) Poor electrical insulation properties

A:-Both a and b

B:-Both a and c

C:-Both a and d

D:-All of these

Correct Answer:- Option-A

Question27:-What colour is obtained by the pyrolytic vapours of butyl rubber on the filter paper which is freshly soaked in a solution obtained by dissolving yellow mercuric oxide in conc. sulphuric acid and water on boiling ?

A:-Blue

B:-Bright yellow

C:-Green

D:-Purple

Correct Answer:- Option-B

Question28:-The polymer which is used in the application of firelighters is

A:-UF

B:-Epoxy resin

C:-MF

D:-PF

Correct Answer:- Option-A

Question29:-The polymer which is produced by Cationic polymerization

A:-Polybutadiene

B:-Polyisobutylene

C:-Polyisoprene

D:-Polyacrylonitrile

Correct Answer:- Option-B

Question30:-Which of the following statement is/are correct about impact strength ?

i) Impact strength of polymer increases with increase in temperature.

ii) Impact strength of polymer increases with increase in rate of loading.

iii) Impact strength of polymer increases with decrease in degree of crystallisation.

A:-i and ii

B:-i and iii

C:-ii and iii

D:-All of these

Correct Answer:- Option-B

Question31:-L/D ratio of screw of injection moulding screw is

A:-Working length of the screw flight to the root diameter of the screw

B:-Overall length of the screw to the root diameter of the screw

C:-Flight length to the outside diameter of the screw

D:-Overall length of the screw to the outside diameter of the screw

Correct Answer:- Option-C

Question32:-Nozzle shutoff valve is not recommended for injection moulding of materials such as

A:-PE

B:-PVC

C:-PC

D:-PET

Correct Answer:- Option-B

Question33:-Screws with compression ratio 3:1 to 5:1 are suitable for injection

moulding of

A:-General purpose materials

B:-Shear sensitive materials

C:-Crystalline materials

D:-All of these

Correct Answer:- Option-C

Question34:-Materials with very low melt viscosity can be moulded best with a nozzle known as

A:-Standard nozzle

B:-Shutoff nozzle

C:-Reverse taper nozzle

D:-General purpose nozzle

Correct Answer:- Option-C

Question35:-Match the following

- |                   |  |
|-------------------|--|
| P. Warping        | 1. Gates and runners are too restrictive |
| Q. Sink marks     | 2. Metal section too cold                |
| R. Silver streaks | 3. Part section uneven                   |
| S. Crazeing       | 4. Distortion due to internal stresses   |

A:-P-2, Q-4, R-1, S-3

B:-P-4, Q-3, R-1, S-2

C:-P-4, Q-3, R-2, S-1

D:-P-3, Q-4, R-1, S-2

Correct Answer:- Option-B

Question36:-The part which is used between the end of the cylinder and the sprue bushing of an injection moulding machine is

A:-Nozzle

B:-Check valve

C:-Back pressure valve

D:-Register ring

Correct Answer:- Option-A

Question37:-Outer surface of the barrel is made of

A:-Nitrided steel

B:-Chrome plated steel

C:-Low carbon steel

D:-None of these

Correct Answer:- Option-C

Question38:-Automatic removal of gates, runner and sprue at the time of moulding is achieved by

A:-Two plate mould

B:-Single cavity mould

C:-Multi cavity mould

D:-Three plate mould

Correct Answer:- Option-D

Question39:-Function of torpedo is

i) Push the material towards metering end.

ii) Spread the material.

iii) Provide efficient heating of material.

A:-i and ii

B:-i and iii

C:-ii and iii

D:-All of these

Correct Answer:- Option-C

Question40:-Register ring is used to

A:-Align the mould with machine platen

B:-Align the ejector assembly with machine parts

C:-Align check valve at the tip of the nozzle

D:-None of these

Correct Answer:- Option-A

Question41:-Semi positive-flash type mould is associated with which moulding process ?

A:-Compression moulding

B:-Blow moulding

C:-Injection moulding

D:-Extrusion moulding

Correct Answer:- Option-A

Question42:-Catridge type electric heaters and hot oil system heating are used in which mould ?

A:-Injection mould

B:-Rotational mould

C:-Blow mould

D:-Compression mould

Correct Answer:- Option-D

Question43:-A transfer mould with an in-built pot and plunger is known as

A:-Top ram mould

B:-Bottom ram mould



C:-Integral mould

D:-Loose plate mould

Correct Answer:- Option-C

Question44:-The form of the leftover material in the base of the well in transfer moulding is called

A:-Sprue

B:-Runner

C:-Pot

D:-Cull

Correct Answer:- Option-D

Question45:-In compression moulding process the time interval between the opening and closing of mould for escape of volatile gases are called

A:-Cooling time

B:-Curing time

C:-Breathing time

D:-Packing time

Correct Answer:- Option-C

Question46:-In which type of compression moulding press, bigger and deeper components are made ?

A:-Upstroking press

B:-Down stroking press

C:-Both (A) and (B)

D:-Hand operated toggle lever press

Correct Answer:- Option-B

Question47:-Which one of the following is not a part of Upstroking compression press ?

A:-Lower platen

B:-Upper platen

C:-Nozzle

D:-Strain rods

Correct Answer:- Option-C

Question48:-Transfer moulding is the modified form of which process ?

A:-Blow moulding

B:-Compression moulding

C:-Vacuum forming

D:-Extrusion

Correct Answer:- Option-B

Question49:-What is the temperature range in compression moulding process ?

A:-80 to 100 °C

B:-100 to 125 °C

C:-140 to 250 °C

D:-280 to 320 °C

Correct Answer:- Option-C

Question50:-What is the cause of 'Orange peel' defect in compression moulding ?

A:-Un pre-heated material is used

B:-Softer material might have been used

C:-High mould temperature

D:-All of these

Correct Answer:- Option-D

Question51:-The parison die head is responsible for

A:-Cooling the mould

B:-Heating the extruder

C:-Forming the hollow tube of plastic

D:-Cutting the plastic material

Correct Answer:- Option-C

Question52:-The clamping unit in a blow moulding machine is used to

A:-Heat the material

B:-Hold the mould in position during blowing

C:-Cool down the finished product

D:-Transport material into the mould

Correct Answer:- Option-B

Question53:-Which of the following is a common technique used in parison programming to vary the thickness of the parison ?

A:-Die gap adjustment

B:-Cooling rate modification

C:-Extrusion speed alteration

D:-Mould temperature regulation

Correct Answer:- Option-A

Question54:-If you need to blow mould a lightweight, durable bottle for food packaging that has good resistance to impact and moisture, which material would be most suitable ?

A:-Polypropylene (PP)

B:-Polyvinyl Chloride (PVC)

C:-Polystyrene (PS)

D:-Polyethylene Terephthalate (PET)

Correct Answer:- Option-D

Question55:-Uneven wall thickness in a blow-moulded part is usually caused by

A:-Low clamping pressure

B:-Uneven parison thickness

C:-High air pressure

D:-Incorrect cooling time

Correct Answer:- Option-B

Question56:-In blow moulding pneumatic system, the compressor's main role is to

A:-Filter the air

B:-Store compressed air

C:-Increase air pressure

D:-Provide cooling

Correct Answer:- Option-C

Question57:-What is the primary purpose of using coinjection blow moulding in bottle production ?

A:-To increase production speed

B:-To produce bottles with multiple layers

C:-To reduce material costs

D:-To improve the bottle's shape accuracy

Correct Answer:- Option-B

Question58:-What does the hoop ratio measure in blow moulding ?

A:-The thickness of the bottle wall

B:-The ratio of length to diameter of the bottle

C:-The ratio of the largest inside diameter of the blown article to the inside diameter of the preform

D:-The rate of cooling of the blown product

Correct Answer:- Option-C

Question59:-In which blow moulding process is the parison first moulded around a core ?

A:-Extrusion blow moulding

B:-Injection blow moulding

C:-Stretch blow moulding

D:-Compression blow moulding

Correct Answer:- Option-B

Question60:-Arrange the following materials in order of increasing orientation temperature

A:-Polypropylene (PP) < Polyethylene Terephthalate (PET) < Polyvinyl Chloride (PVC) < Polystyrene (PS)

B:-Polyethylene Terephthalate (PET) < Polyvinyl Chloride (PVC) < Polypropylene (PP) < Polystyrene (PS)

C:-Polyvinyl Chloride (PVC) < Polyethylene Terephthalate (PET) < Polystyrene (PS) < Polypropylene (PP)

D:-Polystyrene (PS) < Polypropylene (PP) < Polyvinyl Chloride (PVC) < Polyethylene Terephthalate (PET)

Correct Answer:- Option-B

Question61:-Which of the following correctly describes the stages of the injection blow moulding process in order ?

A:-Parison inflation → Injection moulding of preform → Cooling and ejection

B:-Injection moulding of preform → Preform inflation → Cooling and ejection

C:-Cooling and ejection → Parison inflation → Injection moulding of parison

D:-Parison inflation → Cooling and ejection → Injection moulding of preform

Correct Answer:- Option-B

Question62:-Identify the odd item from the following products

A:-Plastic water bottle

B:-Milk jug

C:-Plastic film for packaging

D:-Shampoo bottle

Correct Answer:- Option-C

Question63:-What is one method to reduce shrinkage in blow moulding ?

A:-Decrease blow time

B:-Increase blow time

C:-Increase blow mould temperature

D:-Lower pack pressure

Correct Answer:- Option-B

Question64:-Which of the following can cause burn marks on blow moulded products ?

A:-Excessive cooling time

B:-High melt temperature

C:-Low clamping force

D:-Insufficient air pressure

Correct Answer:- Option-B

Question65:-Which blow moulding process typically results in reduced thickness variation in the final container ?

A:-Extrusion blow moulding

B:-Injection blow moulding

C:-Stretch blow moulding

D:-Compression moulding

Correct Answer:- Option-B

Question66:-What role does the die play in the extrusion process ?

A:-It adds heat to the rubber

B:-It cools the extruded rubber

C:-It shapes the extruded rubber

D:-It mixes the rubber with additives

Correct Answer:- Option-C

Question67:-Which component of the extruder is responsible for conveying the rubber material through the machine ?

A:-Die

B:-Screw

C:-Barrel

D:-Cooling system

Correct Answer:- Option-B

Question68:-Which part of the extruder is responsible for applying pressure to the material ?

A:-Die

B:-Screw

C:-Barrel

D:-Cooling system

Correct Answer:- Option-B

Question69:-What type of die is commonly used in blown film extrusion ?

A:-Flat die

B:-Annular die

C:-Spiral die

D:-Co-extrusion die

Correct Answer:- Option-B

Question70:-What is the primary process used in cast film extrusion ?

A:-Blowing air into molten polymer

B:-Extruding molten polymer onto a chill roll

C:-Injection molding of polymer pellets

D:-Compression molding of sheets

Correct Answer:- Option-B

Question71:-What role does the feed section of an extruder play ?

- A:-To cool the polymer
- B:-To melt the polymer
- C:-To shape the extrudate
- D:-To mix additives

Correct Answer:- Option-B

Question72:-Monofilament extrusion is commonly used to produce

- A:-Thin films
- B:-Ropes and nets
- C:-Coated wires
- D:-Plastic sheets

Correct Answer:- Option-B

Question73:-How does increasing the L/D ratio affect the thermal efficiency of an extruder ?

- A:-Increases thermal efficiency
- B:-Decreases thermal efficiency
- C:-Has no effect
- D:-Depends on material used

Correct Answer:- Option-A

Question74:-In what type of applications might a lower L/D ratio be preferred ?

- A:-High viscosity materials
- B:-Low-density materials
- C:-Materials requiring precise temperature control
- D:-Thin films and sheets

Correct Answer:- Option-A

Question75:-Which of the following factors primarily affects the final thickness of a calendared film ?

- A:-Roll speed
- B:-Roll gap
- C:-Material density
- D:-Cooling time

Correct Answer:- Option-B

Question76:-What might cause die swell during the extrusion process ?

- A:-Low shear rates
- B:-High shear rates
- C:-Low temperatures

D:-Insufficient cooling

Correct Answer:- Option-B

Question77:-What is a possible cause of low output rate in an extrusion process ?

A:-High material temperature

B:-High back pressure

C:-High moisture content

D:-Inconsistent colorant mixing

Correct Answer:- Option-B

Question78:-What should be checked if screw jamming occurs in an extruder ?

A:-Temperature settings

B:-Foreign materials in the feed

C:-Cooling rates

D:-Material color

Correct Answer:- Option-B

Question79:-What is a common problem caused by high shear rates during the extrusion process ?

A:-Die swell

B:-Reduced melt viscosity

C:-Degradation of material properties

D:-Increased output rate

Correct Answer:- Option-C

Question80:-What is the effect of increasing the temperature during the calendaring process ?

A:-Decreased flow of material

B:-Increased fluidity of the material

C:-Increased viscosity

D:-Reduced thermal efficiency

Correct Answer:- Option-B

Question81:-Most commonly used mould material for FRP processes are

A:-Metal

B:-Wood

C:-Plaster of Paris

D:-GRP

Correct Answer:- Option-D

Question82:-Thickness of gel coat in FRP product is

A:-0.2mm

B:-0.6mm

C:-2mm

D:-3mm

Correct Answer:- Option-B

Question83:-Mechanical strength can be increased for any given laminate thickness by

A:-Using Rubber as matrix

B:-Using ceramic as matrix

C:-Using glass fibre

D:-Increasing the reinforcement to resin ratio

Correct Answer:- Option-D

Question84:-Thermosetting resin fully cured with best chemical resistance is from

A:-UP resin

B:-Epoxy resin

C:-Furane resin

D:-PF resin

Correct Answer:- Option-C

Question85:-Which reinforcement has more strength ?

A:-Chopped strand mat

B:-Woven rovings

C:-Unidirectional rovings

D:-Milled fibres

Correct Answer:- Option-C

Question86:-Ability of plastic to become rubbery when heated and formed part will fit tightly around the mould is

A:-Plasticity

B:-Plastic Memory

C:-Viscoelasticity

D:-Rheology

Correct Answer:- Option-B

Question87:-Materials which loose their strength when heated and become soft and putty like have

A:-Good Tensile strength

B:-Good Modulus

C:-Low hot strength and hot elongation

D:-High hot strength and hot elongation

Correct Answer:- Option-C



Question88:-Selective heating to prevent heat from reaching a particular area can be done in forming processes using

A:-Oven heating

B:-Oil baths

C:-Hot platens

D:-Infrared heaters

Correct Answer:- Option-D

Question89:-A heated sheet is introduced between two tools and then pressed to desired shape. This forming method is called

A:-Snap back forming

B:-Reverse draw forming

C:-Twin sheet forming

D:-Matched tool forming

Correct Answer:- Option-D

Question90:-Draft angle of female mould in thermoforming will be

A:-2-3 degree

B:-5-7 degree

C:-9-10 degree

D:-None of the above

Correct Answer:- Option-A

Question91:-The physical properties of rotational moulded parts differ from injection molded parts due to

A:-High temperature

B:-Low pressure

C:-Long thermal cycles

D:-Short thermal cycles

Correct Answer:- Option-C

Question92:-Rotational velocity in rotational molding is

A:-1000 to 2000 rpm

B:-20000 rpm

C:-4 to 20 rpm

D:-200 to 500 rpm

Correct Answer:- Option-C

Question93:-Wall thickness of product in rotational moulding can be changed by

I) Adjusting amount of charge

II) Increasing temperature

III) Adjusting cycle time

IV) Decreasing temperature

A:-III and IV

B:-I and III

C:-I and II

D:-None of the above

Correct Answer:- Option-B

Question94:-Rotational ratio for symmetrically shaped objects in rotational moulding is

A:-1 : 1

B:-4 : 1

C:-0.5 : 1

D:-2 : 1

Correct Answer:- Option-B

Question95:-Raw material used for rotational moulding mostly comes from which family of polymers.

A:-Polyvinylchloride

B:-Polycarbonate

C:-Nylon

D:-Polyethylene

Correct Answer:- Option-D

Question96:-Which product given below is not manufactured by rotational moulding process ?

A:-Blood collection test tubes

B:-Storage tanks

C:-Toys

D:-Bins

Correct Answer:- Option-A

Question97:-Advantages of rotational moulding process are

I) Less tooling

II) Can be used for short runs

III) Less down time of mould

IV) All of the above

A:-IV

B:-I and II

C:-I, II and III

D:-II and III

Correct Answer:- Option-B

Question98:-Which statement is correct about Rotational moulding Equipment ?

A:-Short cycle time

B:-Low cost than injection moulding process

C:-Finishing is not required

D:-All of the above

Correct Answer:- Option-B

Question99:-Moulds for making intricate shaped rotational moulded products are

A:-Stainless steel moulds

B:-Nickel moulds

C:-Non metal moulds

D:-Cast aluminium moulds

Correct Answer:- Option-D

Question100:-Common challenges encountered during the cooling phase of Rotational moulding are

A:-Warping and shrinkage

B:-Wall thickness variation

C:-Surface imperfections

D:-Weld lines

Correct Answer:- Option-A