

## ADVANCED MANUFACTURING PROCESSES

### MODULE: 2 Short questions / Quiz.

1. The \_\_\_\_\_ process, patented in \_\_\_\_\_ is commonly known as “lost- \_\_\_\_\_” process.
2. In the EPC process; \_\_\_\_\_ are not used, hence it is mostly advantageous in making \_\_\_\_\_ in automobiles.
3. In the EPC process, the \_\_\_\_\_ is used to cover the foam cluster; which acts as a barrier preventing the penetration and sand erosion during pouring.
4. In EPC process, the patterns are made from \_\_\_\_\_.
5. In case of coating materials in EPC, \_\_\_\_\_ is preferred for rougher sand while \_\_\_\_\_ is used for finer sand.
6. In EPC process, as the sand is unbounded, due to the difference in the \_\_\_\_\_ of the metal; sand may fall down in the generated cavity, leading to a defective casting.
7. The function of a coating material in EPC is to provide \_\_\_\_\_ and seal the \_\_\_\_\_.
8. The VAEPC stands for \_\_\_\_\_.
9. The V- Process stands for \_\_\_\_\_, it was developed in Japan in \_\_\_\_\_.
10. The V-process does not require \_\_\_\_\_ methods and equipment to remove the casting out and the sand can be \_\_\_\_\_ after cooling without further treatments.
11. In the V- Process, \_\_\_\_\_ is not required on the pattern, thereby reducing the \_\_\_\_\_ costs.
12. In making mould for the V- process, two \_\_\_\_\_ films are used in order to seal the box.
13. The investment casting process initiates with the production of \_\_\_\_\_ the required shape of castings.
14. \_\_\_\_\_ is the last operation before final finishing in the casting process.
15. The major limitations of the investment casting process is the \_\_\_\_\_ and \_\_\_\_\_ of the shells, which limits its size and mass obtained.
16. Some common types of wax used in ceramic shell investment casting are \_\_\_\_\_.
17. A \_\_\_\_\_ is a machine which makes use of an earlier conditioned wax and injects it into a \_\_\_\_\_, to produce a wax pattern.

18. The \_\_\_\_\_ molding process was invented in Germany and is also known as the \_\_\_\_\_.
19. The \_\_\_\_\_ resins used for the shell process are costly and make the sand difficult to \_\_\_\_\_.
20. In shell molding, the resin sand mix aggregate coating can be prepared by \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ methods.

## **MODULE 2: Answers to the quiz/ short questions**

1. Evaporative Pattern Casting (EPC), 1958, Foam
2. Cores, Cylinder heads and engine blocks
3. Ceramic coating

4. Expendable Polystyrene (EPS)
5. Highly permeable coating, medium and low permeable coating.
6. Evaporation rate and flow rate.
7. Refractory protection, penetration of metals.
8. Vacuum Assisted Evaporative Pattern Casting Process.
9. The Vacuum Sealed Molding process, 1971
10. Shaking out, reused.
11. Draft, material
12. Plastic polyethylene / Ethylene vinyl Alcohol
13. Wax replicas or patterns
14. Fettling (cutting off)
15. Cost and delicacy
16. Bee, paraffin, canauba and montana.
17. Wax injector, die
18. Shell, Croning process
19. Phenolic, reclaim.
20. Hot, cold or warm