Unit 9 - Glass ceramics for orthopedic and dental applications, acetabular socket and femoral head, prototype development

WEEK 8 ASSIGNMENT

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-09-25, 23:59 IST.

1) Short term implantation to study bone formation in animal studies is usually carried out for *1 point*

- 12 hours
- 12 days
- 12 weeks
- 12 months

No, the answer is incorrect.
Score: 0
Accepted Answers:
12 weeks

2) Polymeric acetabular socket is usually manufactured by the following technique *1 point*

- Rolling
- Forging
- Compression Molding
- Sintering

No, the answer is incorrect.
Score: 0
Accepted Answers:
Compression Molding

3) Annealing/heat treatment of amorphous glass is carried out to achieve *1 point*

- Crystallization
- Relieve Thermal stress
- Phase transformation
- All of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
All of the above

4) Choose the phase present in Macor based glass ceramics among the following *1 point*

- Limestone
- Calcite
- Kaolinite
- Phlogopite

No, the answer is incorrect.
Score: 0
Accepted Answers:
Phlogopite

5) **Answer True/Fasle**-UHMWPE is used as acetabular socket mainly due to a better combination of biocompatibility and tribological properties. *1 point*

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) True

6) **Answer True/False**- Wear particulates from improper choice of materials for acetabular socket and femoral head can cause inflammation. *1 point*

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) True

7) Choose the processing steps in the order that they are followed during the preparation of glass ceramic: (A) Quenching; (B) Melting; (C) Annealing *1 point*

- A-C-B
- B-A-C
- A-B-C
- B-C-A

No, the answer is incorrect.
Score: 0
Accepted Answers:
B-A-C

8) Wear debris particles may generate through *1 point*

- friction
- corrosion
- fracture
- all of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
all of the above

9) 45S5 is a bioglass that contains *1 point*

- 20 % silica
- no silica
- 45 % silica
- 100% silica

No, the answer is incorrect.
Score: 0
Accepted Answers:
45 % silica

10) Glass melting during the processing of dental ceramics is done in Platinum crucible because *1 point*

- it is inert
- prevents contamination
- has high melting point
- all of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
all of the above

11) The component responsible for machinability of glass ceramics is *1 point*

- Amorphous matrix
- Mica crystals
- SiO_2
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Mica crystals

12) The dye usually used to observe host bone-implant interface in the post-implantation phase is *1 point*

- MTT
- Hoechst
- Xylenol orange
- Phalloidin

No, the answer is incorrect.
Score: 0
Accepted Answers:
Xylenol orange

13) The amorphous nature of the glass can be identified by the following technique *1 point*

- Optical Microscope
- Differential Scanning calorimetry
- Scanning Electron Microscope
- none of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Differential Scanning calorimetry

14) The crystal volume fraction in a glass ceramic enhances *1 point*

- machinability
- cytocompatibility
- optical properties
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
machinability

15) In an interface containing hard and soft materials with relative motion *1 point*

- hard material wears soft material
- soft material wears hard material
- strength of the interface increases
- none of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
hard material wears soft material