1- Type of cement that can't be used as luting agent due to hygroscopic property
Answer: Resin modified glass ionomer
2- Sedative cement:
Answer: Zinc oxide eugenol
3- not increased by increase W/p ratio ?
Answer: Film thickness
4- about MGI, all of the following is higher in it than conventional GI:
Answer: Setting time
5- Standard film thickness (according to ADA)
Answer: 25 Micro meter
6- Sth is not desirable to be in luting cements?
Answer: Radiopecity
7- The silane coupling agent present in which cement?
Answer: Resin cement
8- the cement that we use it only with porcelain veneer and ceramic is?
Answer: Light cure resin cement
9- an area with less than 0.5 thickness dentine we use for it ?
Answer: Calcium hydroxide cement
10- not a property of calcium hydroxide cement ?
Answer: Bactericidal or high compressive strength or radiopaque
11- the cement that undergo hygroscopic expansion?
Answer: RMGI
12- the cement that adhere chemically to tooth structure ?
a)GIC
b)polycarb-cement
c)resin cement
d)(a and b)
e)all above
13- the type of cement used depends on :
Answer: depth of the cavity and type of restorative material used
14- disadvantage of polycarboxylate cement :
Answer: rapid set causing sudden increase in viscosity
15- disadvantage of resin cement :

Answer: sensitive to moisture
16: A material with high alkaline property
Answer: calcium hydroxide

17: Modified Zinc oxide eugenol differs from the non-modified in:
Answer: Modified is stronger and less soluble.
* 18 : Not recommended to use in deep cavities
Possible answers: zinc phosphate or eugenol.

*19: The effect of high temperature on zinc phosphate:
Possible answers: its strength decreases, or it speeds up setting time.
*20: True about Silane
Answer: binds covalently to filling.
*21: Does not work as a thermal insulator:
Possible answers: Calcium hydroxide or varnish or both.
22: Regarding Varnishes:
Answer: Block dentinal tubules.
23: Wrong about zinc oxide eugenol:
Answer: can be used under composite
24: High copper cement:
Answer: Has high resistance to corrosion

25- According to Donovan's' classification for dental cements Glass Ionomer cement is considered:
a. A conventional cement
b. A contemporary cement
c. A permanent cement
d. A polymerization cement

26- All of the followings are true regarding self-adhesive cements except:
a. Single step
b. No post-operative sensitivity
c. can bond to untreated tooth surface.
d**. Uses self-etching primer.**

27-- Resin cements are based on (Bis-GMA) material which is short for:
a. Bisphenol-a-gluteryl methacrylate
b. Bisacryl-a-gluteryl methacrylate
c. Bisacryl-a-glycidyl methacrylate
d. Bisphenol-a-glycidyl methacrylate
28- Glass-Ionomer cement was modified by adding metal which resulted in:
a. Better esthetics
b. Better wear resistance
c. longer setting time
d. Significant improvement in strength

29- All of the followings are correct regarding Zinc Phosphate cement except:
a**. Increasing the mixing temperature would increase the setting time.**
b. The mixed cement has a very low pH.
c. It sets by an acid-base reaction.
d. It does not chemically bond to tooth structure

30- When it comes to pulpal irritation the order of dental cements from the most to the least irritant is:
a. Zinc phosphate > Glass Ionomer > Zinc Oxide Eugenol > Polycarboxylate
b. **Zinc phosphate > Glass Ionomer > Polycarboxylate > Zinc Oxide Eugenol**
c. Zinc phosphate > Polycarboxylate > Glass Ionomer > Zinc Oxide Eugenol
d. Zinc phosphate > Polycarboxylate > Zinc Oxide Eugenol> Glass Ionomer

31- In relation to using zinc oxide eugenol as a provisional cement all the following is true except:
a. Available as two paste system
b. The liquid contains eugenol and olive oil.
c. **The zinc oxide inhibits the polymerization of resin cements.**
d. It is considered a weak cement hence cannot be used as a permanent cement.

32- TO be able to use a dental cement as a base under restorations it should fulfil all the following except:
a. It should have high insulation ability and good sealing ability.
b. It should be strong enough to resist the condensation force during the placement of restoration.
c. **A thin layer of cement is applied under restoration to protect pulp against injuries.**
d. None of the mentioned sentences is correct.

33- The mechanism for matrix formation in resin cements where the material sets by both light and chemical curing is called:
a. Cold cure
b. Self-cure
c. Double cure
d. Dual cure

34- One of the general requirements for dental cements is good physical properties which means having:
a. Short working and setting time.
b**. Extended working time and short setting time**.
c. Extended working time and setting time.
d. Extended setting time and short working time.

35- When comparing compomer and Resin modified Glass-Ionomer (RMGI) the followings are false except:
a. Compomer have higher fluoride release than RMGI.
b. compomer is closer than RMGI to the conventional Glass ionomer cement properties.
c. Compomer sets mainly by polymerization reaction then later on some acid-base reaction takes place.
d. None of the mentioned sentences is correct.

36- All of the followings are advantages of Glass-Ionomer cements except:
a. High translucency
b. Chemically bonds to tooth structure
c. Less pulpal irritation than zinc phosphate cement
d. Contains fluoride which leaches out of the GI after it sets.

37- Considering the setting reaction of zinc polycarboxylate all the followings are true except:
a. The powder particles when attacked by the acid, it releases calcium and Aluminum ions.
b. The reaction happens between the zinc oxide powder and the polycarboxylic acid to form polycarboxylate salts.
c. The Interaction between the carboxyl groups and the metal ions forms a cross-linked polycarboxylate salts.
d. None of the above mentioned sentences is correct.

38- The first adhesive cement that formed chemical adhesion with the tooth structure is:
A. Zinc polycarboxylate cement
B. Resin cement
C. Zinc phosphate cement
D. Modified glass ionomer cement
E. Glass ionomer cement

39- The correct resin cements arrangement based on the number of steps required for application from the least to the highest:
A. **Total etch > self-etching > self-adhesive**
B. Self-adhesive > self-etching > total etch
C. Self-adhesive > total etch > self-etching
D. Total etch > self-adhesive > self-etching

40- Zinc phosphate cement is considered the least biocompatible cement because of its high pH and large molecular weight, this statement is:
A. TRUE
B. **FASLE**

41- All of the following are true regarding calcium hydroxide except:
A. Found in the form of setting and non-setting CaOH
B. Used for direct pulp capping in deep cavities
C**. Used as permanent cement**
D. It has a high PH
E. Two of the above

42- A sialne coupling agent is present in:
A. **Resin cement**
B. Glass ionomer cement
C. Zinc polycarboxylate cement
D. Zinc phosphate cement
E. resin modified GI cement

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44- Silorane is:
A. an inorganic modified with acid base reaction
B. an organic resin matrix
C. combination of siolxanes and oxiranes
D. one type of compomer
E. none of the above is correct

45- Silane are:
A. Un functional molecules
B**. Able to bond covalently to the filler particles**
C. Working by increasing the surface tension between the inorganic filler and the organic matrix
D. Used to reduce the gradual loss of filler particles from the composites surface
E. None of the is correct

46- The material that sets by both acid base reaction and polymerization reaction is:
A. Resin cement
B. Zinc polycarboxylate

C. Compomer
D. Glass ionomer
E. Zinc phosphate

47- The optimum film thickness for a dental luting agent allows ease of seating for the
cemented restorations is:
A. 0.75mm
B. 75 micron
C. 25 micron
D. 25 nm E. 75 nm

48- The setting reaction of the dual cured resin cement happens by:
A. Light activation
B. Chemical activation
C. Light and chemical activation
D. Acid-base reaction

49- All of the following are considered advantages of resin cement except:
A. Low solubility
B. High aesthetics
C. High tensile strength
D. Low post-operative sensitivity

50- All of the following are considered permanent cements except:
A. Glass ionomer
B. Resin modified glass ionomer
C. Zinc phosphate
D. Zinc oxide eugenol
E. Two of the above

51-All of the following are considered metal modified glass ionomer cements in the market except:
A. Ketac silver
B. Cermet

C. Miracle mix
D. Compomer
E. None of the above

52-The best luting agent should have:
A. **Biocompatibility with the soft tissue**
B. High viscosity
C. high solubility
D. Radiolucent
E. Two of the above

53- All of the following is correct regarding allergy to resin components, except:
A. Occur due to leachable components mainly the monomer and benzoic acid
B. It is associated with cold cure resin due to high residual monomer
C. Polycarbonate, vinyl acrylics, light activated acrylic are all alternative for allergic patients
D. Pigments maybe toxic
E. None of the above

54- All of the following are components of glass ionomer cement, except;
A. Calcium
B. Fluoride
C. Tartaric acid
D. Silicate
E. Bis-GMA

55- permanent soft liner should have the following features, except:
A. Rubbery and resilient
B. Non-toxic and non-irritant
C. Adheres to fitting the surface of dentures
D. Low elastic modules
E. None of the above

56- The right arrangement of dental cements from the oldest to the newest:

A. Zinc polycarboxylate > resin cements > zinc oxide eugenol > glass ionomer

B. zinc oxide eugenol > Zinc polycarboxylate > glass ionomer > resin cements

C. zinc oxide eugenol > glass ionomer > Zinc polycarboxylate > resin cements

D. resin cements > glass ionomer > zinc oxide eugenol > Zinc polycarboxylate

E. resin cements > Zinc polycarboxylate > glass ionomer > zinc oxide eugenol