1. **Debridement in endodontics refers to the elimination of:**

**a.**                    **Vital pulp tissue**

**b.**                    **Bacterial toxins**

**c.**                    **Microorganisms**

**d.**                    **Proteolytic breakdown products**

**e.**                    **All of the above**

**2.**      .**Sodium hypochlorite:**

**a.**                    **Is used primarily as an intracanal medicament**

**b.**                    **Is an active solvent for tissue debris**

**c.**                    **Is utilized as an irrigant at 10% to 20% concentrations**

**d.**                    **Has a significant inflammatory effect on attached viable tissues**

**e.**                    **When in contact with hydrogen peroxide, liberates chlorine**

**3.**       **The technique for irrigation of the root canal includes:**

**a.**                    **Introducing the irrigant sparingly during cleaning and shaping**

**b.**                    **Alternating irrigant solutions of sodium hypochlorite and alcohol**

**c.**                    **Alternating irrigant solutions hydrogen peroxide and alcohol**

**d.**                    **Passively releasing the irrigant solution into the canal**

**e.**                    **Binding the irrigation needle and irrigating with pressure**

**4.**      .**The minimum size for the prepared foramen of the ideal canal preparation would be the width of a:**

**a.**                    **No. 15 file**

**b.**                    **No. 25 file**

**c.**                    **No. 35 file**

**d.**                    **No. 45 file**

**e.**                    **No. 55 file**

**5.**       **A radiograph showing a canal that diminishes suddenly indicates:**

**a.**                    **The presence of an accessory canal**

**b.**                    **A root canal division**

**c.**                    **A root end curvature toward or away from the x-ray beam**

**d.**                    **A thin flat root**

**e.**                    **An x-ray anomaly**

**6.**      .**Which of the following is true of the maxillary first premolar?**

**a.**                    **The majority will be birooted**

**b.**                    **Access cavity design is ovoid in a mesial-distal direction**

**c.**                    **The greater the divergency of the roots, the greater will be the occlusal access extension**

**d.**                    **There is a reported 20% incidence of three roots**

**e.**                    **After endodontics full restorative occlusal coverage is elective**

**7.**       **Maxillary second premolar radicular morphology may present:**

**a.**                    **Two separate canals**

**b.**                    **Two canals anastomosing into a single canal**

**c.**                    **Two canals with interconnections**

**d.**                    **Accessory and lateral canals with less frequency than in incisors**

**e.**                    **All of the above**

**8.**       **The maxillary first molar:**

**a.**                    **Is the posterior tooth with the highest incidence of endodontic failure**

**b.**                    **Presents a distal-buccal root that is usually ovoid and curved**

**c.**                    **Has a palatal root that often curves distally in the apical third**

**d.**                    **Has a reported 52% incidence of two canals and two apical foramina in the mesial-buccal root**

**e.**                    **None of the above**

**9.**     .**Excessive calcification of the pulp chamber and root canal:**

**a.**                    **Does not affect locating the canal orifice**

**b.**                    **Necessitates apical surgery**

**c.**                    **May render the canal nonnegotiable**

**d.**                    **Is amenable only to extraction**

**e.**                    **Minimizes the risk of perforation**

**10.**    .**Which medical condition contraindicates endodontic therapy?**

**a.**                    **Rheumatic heart disease**

**b.**                    **Pacemaker patients**

**c.**                    **Controlled diabetes**

**d.**                    **Pregnancy**

**e.**                    **None of the above**

**11.**    .**A three-dimensionally well-filled root canal system:**

**a.**                    **Prevents percolation of periapical exudates into the root space**

**b.**                    **Maximizes the amount of sealer and minimizes the cone material**

**c.**                    **Is independent of the endodontic cavity design**

**d.**                    **Is dependent upon the use of intracanal medications to sterilize the canal**

**e.**                    **Prevents any transient bacteremia from reinfecting the root canal through the pulp chamber**

**12.**    .**The function of the root canal sealer is to:**

**a.**                    **Lubricate and to aid in sealing the obturative cone**

**b.**                    **Fill the patent accessory canals and small multiple foramina**

**c.**                    **Help seal the irregularities in the canal walls**

**d.**                    **Be bacteriostatic to a point of not encouraging bacterial growth**

**e.**                    **All of the above**

**13.**  .**What organic solvent is substituted for chloroform as a gutta-percha softening material?**

**a.**                    **Ethyl alcohol**

**b.**                    **Orange oil**

**c.**                    **Eucalyptol**

**d.**                    **Methylmethacylate**

**e.**                    **Eugenol**

**14.**  .**Pain from apical inflammation after canal obturation is usually controlled by:**

**a.**                    **Cold compresses**

**b.**                    **Periapical surgery**

**c.**                    **Analgesics (Anti-inflammatory) drugs.**

**d.**                    **Extraction**

**15.**  .**Which of the following root canal sealers may cause discoloration of tooth structure?**

**a.**                    **TubliSeal**

**b.**                    **Wach’s**

**c.**                    **Chloropercha or eucapercha**

**d.**                    **Rickert’s**

**e.**                    **Grossman’s**

**16.**   **The tooth germ of the succedaneous teeth arises from the:**

**a.**                    **Dental papilla**

**b.**                    **Dental sac**

**c.**                    **Stellate reticulum**

**d.**                    **Cervical loop**

**e.**                    **Dental lamina**

**17.**  **Differentiation of ameloblasts and odontoblasts**

**a.**                    **Occurs during the cap stage of tooth development**

**b.**                    **Is always more advanced in the area of the cervical loop**

**c.**                    **Is more progressive in the apex of the “bell”**

**d.**                    **Occurs at the same rate for both cell types**

**e.**                    **None of the above**

**18.**   **During dentinogenesis one of the following events occurs:**

**a.**                    **Odontoblasts develop first in the region of the root**

**b.**                    **Odontoblasts at full maturity become large cuboid cells**

**c.**                   **collagen fibrils accumulate subjacent to the basal lamina, the lamina becomes more evident .**

**d.**                **The dentin matrix is involved in the formation, organization, and maturation of collagen fibrils**

**e.**                    **Von Korff fibers become organized and extend within the ameloblast processes**

**19.**     **Root development:**

**a.**                    **Commences during the initiation of enamel formation**

**b.**                   **Comprises the formation of Hertwig’s epithelial root sheath by the outer enamel epithelia**

**c.**                    **Is influenced by Hertwig’s sheath as to the size and shape of the root(s)**

**d.**                    **Is the stage during which cementoblast differentiate from Hertwig’s sheath**

**e.**                    **All of the above**

**20.**    **Pulp innervations**

**a.**                    **Consists of both unmyelinated A- and myelinated C fibers**

**b.**                    **Provides a system that controls the microcirculation and responds to the sensation of pressure**

**c.**                    **Enters the apical foramen to divide in the coronal pulp into the plexus of Raschkow**

**d.**                    **Includes terminal axons that are limited to fibers passing between odontoblast to the predentin**

**e.**                    **All of the above**

**21.**    **Painful pulpitis:**

**a.**                    **Appears to be associated with the A- fibers of the pulp**

**b.**                    **Is a consistent symptom associated with inflammation of the pulp**

**c.**                    **Appears to be related to the decrease in intrapulpal pressure during pulpal inflammation**

**d.**                    **Is most likely to be associated with nociceptive C fibers**

**e.**                    **Is limited to symptoms of an unprovoked nature**

**22.**    **Inflammation is basically a \_\_\_ response:**

**a.**                    **Nervous**

**b.**                    **Cellular**

**c.**                    **Histologic**

**d.**                    **Vascular**

**e.**                    **Pathologic**

**23.**   .**Chronic inflammation demonstrates a predominance of what cell type?**

**a.**                    **Monocytes**

**b.**                    **Polymorphonuclear leukocytes (PMNs)**

**c.**                    **Lymphocytes**

**d.**                    **Fibroblasts**

**e.**                    **Pericytes**

**24.**   .**No further treatment is required for a fractured root when:**

**a.**                    **There is minimal mobility**

**b.**                    **The tooth has not darkened**

**c.**                    **The patient is comfortable**

**d.**                    **The radiograph indicates healing is progressing**

**e.**                    **All of the above**

**25.**   .**A tooth with a fractured root that does not heal will generally be:**

**a.**                    **Sensitive to percussion**

**b.**                    **Mobile**

**c.**                    **Turning dark**

**d.**                    **Slightly extruded**

**e.**                    **All of the above**

**26.**    **A fractured root healed by calcific repair will have the following signs or symptoms:**

**a.**                    **A discolored “pink tooth” appearance**

**b.**                    **Class II mobility**

**c.**                    **No response to electric pulp testing**

**d.**                    **A radiographic appearance of fracture line across the root**

**e.**                    **Symptoms of spontaneous unstimulated occasional pain**

**27.**   .**Maintenance of pulpal vitality in exposed pulp-crown fractures**

**a.**                    **Improves the prognosis with elapsing time before treatment**

**b.**                    **Is the treatment of choice for teeth with incompletely formed roots**

**c.**                    **Requires a pulp capping procedure for mature teeth with laxative injuries**

**d.**                    **Is generally reserved for mature teeth**

**e.**                    **Is recommended for teeth with partial calcific pulpal obliteration**

**28.**    **Crown infraction:**

**a.**                    **Involves injuries associated with fractured roots**

**b.**                    **Is a complete fracture exposing dentin**

**c.**                    **Usually involves splinting for immobilization**

**d.**                    **Requires equilibration for esthetics**

**e.**                    **Often includes a severe pulpal reaction**

**Answer Key:**

**1(e),2 (a  ),3 (d ),4 (b  ),5 (b ),6 (a),7 (e  ),8 (a  ),9 (c  ),10 (e  ),11 (a  ),12(e),13 (c  ),**

**14 (c  ),15 (d  ),16 (e  ),17 (c  ),18 (d  ),19 (b  ),20 (c  ),21( d), 22(d  ),23 (c  ),24 (a  ),**

**25 (e), 26 (d), 27 (b), 28 (e).**