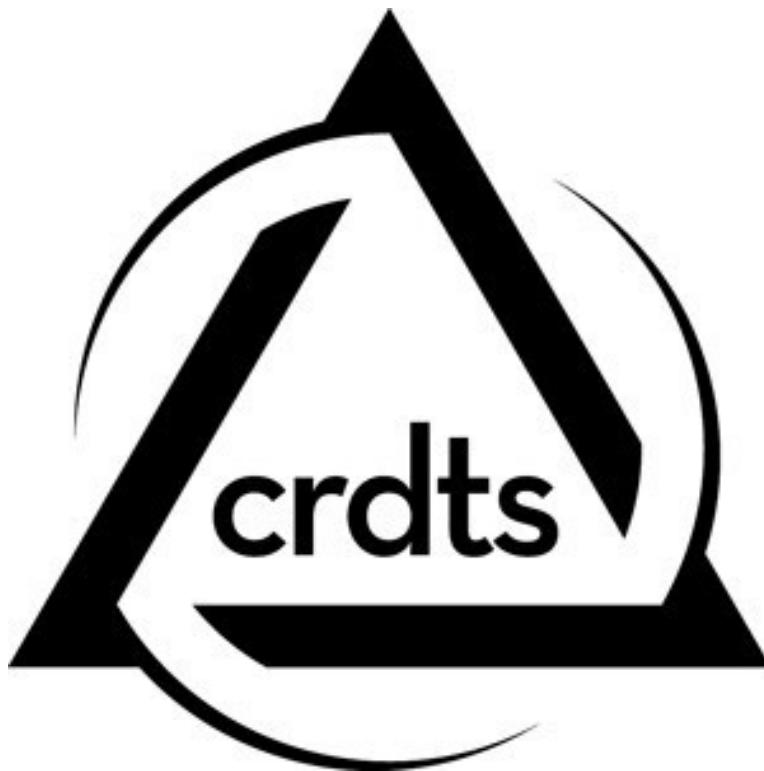


# **DENTAL EXAMINATION FIXED PROSTHODONTIC CANDIDATE MANUAL**

**Class of 2022**



**A National Dental Examination**  
As administered by:

**Central Regional Dental Testing Service, Inc.**  
**1725 SW Gage Blvd.**  
**Topeka, Kansas 66604**  
**(785) 273-0380**  
**www.crdts.org**

**Please read this candidate manual prior to attending the candidate orientation and bring it with you to the orientation and the examination.**

# Fixed Prosthodontic Examination

## Table of Contents

CONTENT OVERVIEW.....	1
SCORING SYSTEM.....	1-3
<b>THE EXAMINATION</b>	
<b>PART III: FIXED PROSTHODONTICS EXAMINATION</b>	
General Requirements .....	4-5
Requirements Specific to the Part III: Fixed Prosthodontics Examination.....	6-7
Criteria Specific to the Part III: Fixed Prosthodontic Examination	
Porcelain-Fused-To-Zirconia Crown Preparation:	
Cervical Margin and Draw .....	8
Walls, Taper and Finish Line .....	9
Monolithic Zirconia Ceramic Crown Preparation:	
Cervical Margin and Draw .....	10
Walls, Taper and Finish Line .....	11
Bridge Factor .....	12
Anterior Lithium Disilicate Ceramic Crown Preparation:	
Cervical Margin and Draw .....	13
Walls, Taper and Finish Line.....	14
Fixed Prosthodontic Simulated Patient Procedures – Treatment Management .....	15
Fixed Prosthodontic Progress Form .....	16

# **CONTENT, CRITERIA & SCORING SYSTEM - OVERVIEW**

## **PART III: FIXED PROSTHODONTICS EXAMINATION – 100 POINTS**

<b>CONTENT</b>	<b>FORMAT</b>
<ol style="list-style-type: none"><li>1. Preparation of tooth #5, a single-layered artificial tooth, for a porcelain fused to zirconia crown as one abutment for a 3-unit bridge. (The bridge is not fabricated for this examination.)</li><li>2. Preparation of tooth #3, a single-layered artificial tooth, for a Monolithic Zirconia Ceramic Crown as the other abutment for the same 3-unit bridge. Both preparations must be parallel to each other.</li><li>3. Preparation of tooth #9, a single-layered artificial tooth for an Anterior Lithium Disilicate Ceramic Crown.</li></ol>	<ul style="list-style-type: none"><li>- Performed on a Simulated Patient</li><li>- Time: 4.0 hours</li></ul>

## **SCORING SYSTEM**

The examination scoring system was developed in consultation with three different measurement specialists; the scoring system is criterion-based and was developed using an analytical model. The examination is conjunctive in that its content is divided into separate Parts containing related skill sets and competence must be demonstrated in each one of the Parts. A compensatory scoring system is used within each Part to compute the final score for each Part, as explained below.

Only State Boards of Dentistry are legally authorized to determine standards of competence for licensure in their respective jurisdictions. However, in developing the examination, CRDTS has recommended a score of 75 to be a demonstration of sufficient competence; and participating State Boards of Dentistry have agreed to accept that standard. In order to achieve “CRDTS status” and be eligible for licensure in a participating state, candidates must achieve a score of 75 or more in each Part of the examination.

Each examination score is based on 100 points. If all sections of an examination are not taken, a score of “0” will be recorded for that specific examination.

## **PART III: SCORING SYSTEM FOR FIXED PROSTHODONTIC SIMULATED PATIENT PROCEDURES**

CRDTS and other testing agencies have worked together on a national level to draft and refine the performance criteria for each procedure in this examination. For the majority of those criteria, gradations of competence are described across a 4-level rating scale. Those criteria appear in this manual and are the basis of the scoring system. Those four rating levels may be generally described as follows:

### **SATISFACTORY**

The treatment is of good to excellent quality, demonstrating competence in clinical judgment, knowledge and skill. The treatment adheres to accepted mechanical and physiological principles permitting the restoration of the tooth to normal health, form and function.

### **MINIMALLY ACCEPTABLE**

The treatment is of acceptable quality, demonstrating competence in clinical judgment, knowledge and skill to be acceptable; however, slight deviations from the mechanical and physiological principles of the satisfactory level exist which do not damage the patient nor significantly shorten the expected life of the restoration.

### **MARGINALLY SUBSTANDARD**

The treatment is of poor quality, demonstrating a significant degree of incompetence in clinical judgment, knowledge or skill of the mechanical and physiological principles of restorative dentistry, which if left unmodified, will cause damage to the patient or substantially shorten the life of the restoration.

### **CRITICALLY DEFICIENT**

The treatment is of unacceptable quality, demonstrating critical areas of incompetence in clinical judgment, knowledge or skill of the mechanical and physiological principles of restorative dentistry. The treatment plan must be altered and additional care provided, possibly temporization in order to sustain the function of the tooth and the patient's oral health and well-being.

In Part III, a rating is assigned for each criterion in every procedure by three different examiners evaluating independently. Based on the level at which a criterion is rated by at least two of the three examiners, points may be awarded to the candidate. In any instance that none of the three examiners' ratings are in agreement, the median score is assigned. However, if any criterion is assigned a rating of ***critically deficient*** by two or more of the examiners, ***no points are awarded for that procedure or for the Examination Part***, even though other criteria within that procedure may have been rated as satisfactory. A description of Part III and the number of criteria that are evaluated for the procedures in Part III appears below:

### **Part III: FIXED PROSTHODONTICS – 100 Points**

The Fixed Prosthodontics Examination is a simulated patient examination which consists of three procedures completed on artificial teeth: a Monolithic Zirconia Ceramic Crown Preparation as a terminal abutment for a 3-unit bridge, a porcelain-fused-to-zirconia crown preparation as an abutment for a bridge, plus an evaluation of the line of draw for the bridge abutment preparations, and an all Anterior Lithium Disilicate Ceramic Crown Preparation on an anterior central incisor.

Monolithic Zirconia Ceramic	10 Criteria
Porcelain-Fused-to-Zirconia	10 Criteria
Anterior Lithium Disilicate Ceramic	11 Criteria

To compute the score for each individual procedure, the number of points the candidate has earned for each criterion is totaled, divided by the maximum number of possible points for that procedure and the results are multiplied by 100. This computation converts scores for each procedure to a basis of 100 points. Any penalties that may have been assessed during the treatment process are deducted **after** the total score for the Examination Part has been converted to a basis of 100 points.

If no critical deficiency has been confirmed by the examiners, the total score for each of Parts II, III and V is computed by adding the number of points that the candidate has earned across all procedures in that Part, and that sum is divided by the number of possible points for all procedures in that Part. If a critical deficiency has been confirmed by the examiners, an automatic failure is recorded for both the procedure and the Examination Part. An example for computing scores that include no critical deficiency is shown below for Part III:

PROCEDURE	# CRITERIA	POINTS EARNED	POINTS POSSIBLE	COMPUTED SCORE
Monolithic Zirconia Ceramic	10 Criteria	30	40	75.00
Porcelain-Fused-to-Zirconia	10 Criteria	34	40	85.00
Anterior Lithium Disilicate Ceramic	11 Criteria	38	44	86.36
<b>TOTALS for PART III</b>	31 Criteria	<b>102</b>	<b>124</b>	<b>82.25</b>

Although there are three Parts that are scored separately for restorative clinical skills, within each Part a compensatory system is used to compute the final score for that Part if there is no critical deficiency. For Parts III and V, the computed score for each procedure is *not averaged*, but instead is numerically weighted by the ratio of its number of scorable criteria to the total number of scorable criteria in the Part. For example, the Monolithic Zirconia Ceramic Crown Preparation has a total of 10 scorable criteria which represents 40 possible points out of the total of 124 possible points for Part III. As shown in the example above, the candidate earned 102 out of 124 possible points for the three procedures in Part III for a final score of 82.25 points. If any penalties were assessed, the points would be deducted as percentage points from the final score for Part III.

### **PENALTY DEDUCTIONS**

Throughout the examination, not only clinical performance will be evaluated, but also the candidate's professional demeanor will be evaluated by Clinic Floor Examiners. A number of considerations will weigh in determining the candidate's final grades and penalties may be assessed for violation of examination standards, as defined within this manual, or for certain procedural errors as described below:

Any of the following may result in a deduction of points from the score of the entire examination Part or dismissal from the exam in any of the clinical procedures:

1. Violation of universal precautions or infection control; gross asepsis; operating area is grossly unclean, unsanitary or offensive in appearance; failure to dispose of potentially infectious material and clean the operatory after individual examinations
2. Poor Professional Demeanor – unkept, unclean, or unprofessional appearance; inconsiderate or uncooperative with other candidates, examiners or testing site personnel
3. Improper Operator/Patient/Manikin position
4. Improper record keeping

The following infractions will result in a loss of ***all*** points for the entire examination Part:

1. Violation of Examination Standards, Rules or Guidelines
2. Treatment of teeth or surfaces other than those approved or assigned by examiners
3. Gross damage to an adjacent tooth that requires a restoration
4. Gross iatrogenic damage to the simulated gingiva and/or typodont

The penalties or deficiencies listed above do not imply limitations, since obviously some procedures will be classified as unsatisfactory for other reasons, or for a **combination** of several deficiencies.

**Professional Conduct** – All substantiated evidence of falsification or intentional misrepresentation of application requirements, collusion, dishonesty, or use of unwarranted assistance during the course of the examination shall automatically result in failure of the entire examination by any candidate.

In addition, there will be no refund of examination fees and that candidate cannot apply for re-examination for one full year from the time of the infraction. Any of the following will result in failure of the entire examination:

- a. Falsification or intentional misrepresentation of application requirements
- b. Cheating (Candidate will be dismissed immediately)
- c. Any candidate demonstrating complete disregard for the oral structures, welfare of the patient and/or complete lack of skill and dexterity to perform the required clinical procedures
- d. Misappropriation of equipment (theft)
- e. Receiving unwarranted assistance
- f. Alteration of examination records and/or radiographs

## PART III: FIXED PROSTHODONTICS EXAM – 100 Points

The Fixed Prosthodontics Examination is a stand-alone examination that will be administered on the same day as the Endodontics Examination. The Fixed Prosthodontics Examination consists of three procedures, as follows:

### **PART III: FIXED PROSTHODONTICS EXAMINATION**

1. Preparation of tooth #5, a single-layered artificial tooth, for a porcelain fused to zirconia crown as one abutment for a 3-unit bridge. (The bridge is not fabricated for this examination)
2. Preparation of tooth #3, a single-layered artificial tooth, for a monolithic zirconia ceramic crown as the other abutment for the same 3-unit bridge. Both preparations must be parallel to each other
3. Preparation of tooth #9, a single-layered artificial tooth for an Anterior Lithium Disilicate Ceramic Crown.

## GENERAL REQUIREMENTS

1. **Typodont Requirements:** The Fixed Prosthodontic simulated patient examination may be completed **only** on an Acadental ModuPRO™ (Integrated Modular Typodont), using magnetic fixed prosthodontic modules. It is the candidate's responsibility to provide the required ModuPRO™ items (listed below) for the simulated patient section of the examination. This includes the articulating hinge if the typodont is going to be chair-mounted, Carrier Trays, and modules for the fixed prosthodontics procedures. The ModuPRO™ typodont and other required ModuPRO™ supplies may be purchased by the candidate at any time prior to the examination through the school or through Acadental directly at [www.acadental.com](http://www.acadental.com).

In order to have the modules properly interlocked and stabilized, it is required that six modules— three mandibular and three maxillary—be mounted in the carrier trays at all times the candidate is operating. For the fixed prosthodontic procedures, all six modules must be fixed prosthodontic modules to ensure consistent contact.

2. **Manikin Requirements and Mounting:** A mounted manikin with full facial shroud should be provided by the testing site for insertion of the typodont. The manikin heads must accommodate the Acadental ModuPRO™ which can be adapted to a chair-mounted post or a high-tech simulation lab unit. If the typodonts are to be chair-mounted, they must have an articulating hinge attached. If a simulation lab is being used, the typodonts must be adapted with appropriate connectors. Please check with the site regarding equipment provided.
3. **Putty Matrix:** Since working and scoring articulators could cause a variance in occlusion, standardized reduction matrices are supplied by CRDTS to be used by both the candidate and examiner for evaluating occlusal reduction.
4. **Patient Simulation:** The correct patient/operator position must be maintained while operating. Throughout the simulated patient procedures, the treatment process will be observed by Clinic Floor Examiners and evaluated as if the manikin were a live patient. Except for having the manikin wear protective eyewear, the manikin is subject to the same treatment standards as any patient. The facial shroud may not be displaced other than with those retraction methods which would be reasonable for a patient's facial tissue. Some modifications in the treatment procedure are imposed due to the mechanical simulation conditions.  
The Candidate should use only air but may use both air and water spray when preparing teeth #9, #3 and #5. If water spray is utilized, a mechanism to collect and remove the water must be in place during the use of the water spray. Models or pre-preparations are not permitted to be brought to the examination site.

5. **Security Requirements:** No written materials may be in the operating area other than this Candidate Manual and CRDTS forms.
6. **Infection Control:** The candidate must follow the most current recommended infection control procedures as published by the CDC during all simulated patient clinical procedures. The only exception to standard infection control precautions is that the candidate is not required to maintain protective eyewear on the manikin during simulated patient procedures. Infection control will be monitored by Clinic Floor Examiners. [.\(www.cdc.gov/oralhealth/infectioncontrol/guidelines\)](http://www.cdc.gov/oralhealth/infectioncontrol/guidelines)
7. **Assigned Teeth:** Once a procedure has been started, the procedure must be carried to completion on the assigned tooth/teeth with no substitutions permitted. Substitution of teeth or preparation of the wrong tooth/teeth during the Fixed Prosthodontic Examination will result in failure of the specific examination.
8. **Assistants:** Auxiliary personnel are not permitted to assist at chairside or in a laboratory during the simulated patient examination. Candidates may not assist each other, critique, or discuss one another's work.
9. **Adjacent Damage:** The candidate's score will be penalized for any unwarranted damage to adjacent teeth or to the simulated gingival area during simulated patient procedures.
  - a. The modules candidates provide must have undamaged teeth in place for the simulated patient procedures. Should CFE's confirm adjacent damage is present, on A(13-15) module for the Fixed Prosthodontic Procedures, the module in question will be confiscated and CRDTS will provide the candidate with another module.
10. **Examination Sequence:** The candidate must set up the simulated patient for the fixed prosthodontic procedures and obtain the approval of a Clinic Floor Examiner between 8:00 and 8:30 A.M. The fixed prosthodontic procedures must be completed between 8:30 and 12:30 P.M. No later than 12:30 P.M., the typodonts must be dismantled and the fixed prosthodontic modules turned in to the examiner; candidates who utilize the maximum time allowed must then leave the clinic area for a brief period of time. At 1:00 P.M. candidates must mount their endodontic modules and the Clinic Floor Examiner must check the mounting of the endodontic typodont and authorize the candidate to proceed. The endodontic procedures must be completed between 1:00 and 4:00 P.M. During all simulated patient procedures, the typodont may *not be disassembled* without the permission of a Clinic Floor Examiner. Between 4:00 and 4:15, the candidate will dismantle the typodont and submit the endodontic modules to the examiners.

## **Requirements Specific to the Fixed Prosthodontics Examination**

### **1. Required Materials:**

Accessories the candidate must provide:

- a. Articulating Hinge for chaired mounted typodonts
- b. Carrier Trays

Note: Carrier Trays and articulators are interchangeable between the endodontic modules and the fixed prosthodontic modules.

CRDTS will provide the following fixed prosthodontic modules:

- a. Module A7-12
- b. Module A2-6

These modules will be distributed to the candidate in a box before the Fixed Prosthodontic Examination begins. Use a bur to **inscribe your candidate number in the lingual area of each modular section** so that when the ModuPRO™ is disassembled, your modules can be readily identified.

The candidate must provide the following fixed prosthodontic modules with undamaged teeth:

- a. A28-31
- b. A13-15
- c. A18-20
- d. A21-27

**2. Fixed Prosthodontic Typodont Modules:** Academic ModuPRO typodonts with magnetic Academic fixed prosthodontic modules attached must be supplied by the candidate for the examination. The candidate will replace the maxillary anterior and maxillary right modules with test modules supplied by CRDTS at the beginning of the exam. The typodont must be articulated by being attached to either an articulator in a simulation laboratory or fitted with an articulating hinge and post-mounted to an operatory chair. No endodontic modules are allowed in the Fixed Prosthodontic examination.

**3. Mounting Check-In:** When the six fixed prosthodontic modules are mounted in the typodont carrier trays and the typodont is mounted in the manikin, a Clinic Floor Examiner must check the mounting, and identification numbers and authorize the candidate to begin. The tooth preparations will require all six fixed prosthodontic modules mounted on the carrier trays. Each module is number coded to indicate correct placement in the carrier trays.

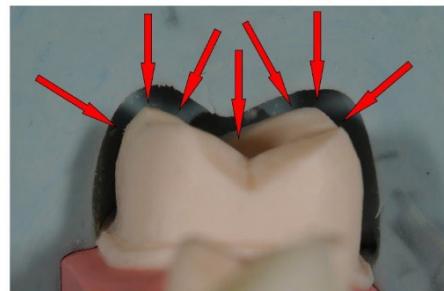
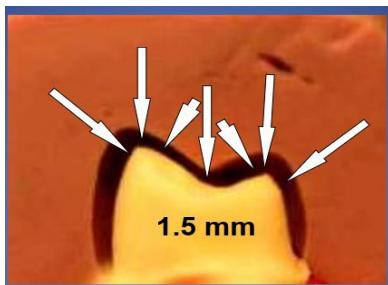
**4. Crown Preparations:** The preparation for a Monolithic Zirconia Ceramic (MZC) crown is completed on tooth #3; the preparation for a porcelain-fused-to-zirconia (PFZ) crown is completed on tooth #5; and the preparation for an Anterior Lithium Disilicate Ceramic (ALDC) is completed on tooth #9. The crown preparations on teeth #3 and #5 must be prepared as abutments for a 3-unit bridge. The teeth must be prepared for full crowns with supragingival margins. The assigned teeth will be single layer teeth. The teeth should be prepared in the appropriate proportions, taper and depths as defined in the criteria. No isolation dam is required for the crown preparations.

**5. Margins:** Prepare the margins to within 0.5 mm of the gingival shroud. For the Anterior Lithium Disilicate crown preparation because margins are placed .5 mm above the simulated gingival, the criteria have been adjusted accordingly. The lingual margin for the Porcelain-Fused-to-Zirconia crown should be prepared for a ceramic margin, 0.5 mm.

**6. Occlusal Reduction:** The tooth for the PFZ crown should be prepared for a porcelain occlusal surface with an optimal occlusal reduction of 1.5 mm. For the MZC crown preparation, the occlusal reduction

is optimally 1.5 mm.

Only the matrix will be used to evaluate occlusal reduction, so it is recommended that candidates utilize a periodontal probe at the locations illustrated by these arrows to accurately determine the correct occlusal reduction, including two plane reduction.



7. **Equilibration Prohibited:** No equilibration will be permitted on the typodont prior to or subsequent to either crown preparation.
8. **Dismantling the Manikin:** During the fixed prosthodontic procedures, **the candidate may not disassemble the manikin without permission of the Clinic Floor Examiner.** Removal of the manikin, typodont or teeth during the fixed prosthodontic examination without permission of the Clinic Floor Examiner will result in failure.
9. **Evaluation:** When the crown preparations are complete, the candidate must request permission from the Clinic Floor Examiner to dismantle the manikin and remove the fixed prosthodontic modules from the carrier trays. At that time, the two CRDTS test modules and all parts of the reduction matrices are to be placed in the box labeled with the candidate's number and collected, along with the completed progress form, by the Clinic Floor Examiner.
10. **Returning the Typodont:** The fixed prosthodontic modules (A7-12 and A2-6) containing the crown preparations will be maintained by CRDTS as part of the candidate's examination record. The other four modules, along with the articulator and carrier trays, may be retained by the candidate or returned to the school, depending upon to whom they belong.

## PORCELAIN-FUSED-TO-ZIRCONIA CROWN PREPARATION

### Tooth #5 - Cervical Margin and Draw

#### MARGIN/EXTENSION

SAT	The margins should be 0.5 mm occlusal to the simulated free gingival margin.
ACC	The cervical margin is at the level of or no more than 1.0 mm occlusal to the simulated free gingival margin.
SUB	The cervical margin is overextended 0.5 mm apical to the CEJ or the crest of the simulated free gingival margin, whichever is most occlusal. The cervical margin is underextended, more than 1.0 mm but no more than 1.5 mm occlusal to the crest of the simulated free gingival margin.
DEF	The cervical margin is overextended more than 0.5 mm apical to the simulated free gingival margin causing visual damage to the typodont. The cervical margin is underextended more than 1.5 mm occlusal to the simulated free gingival margin, thereby compromising esthetics, resistance and retention form.

#### MARGIN/DEFINITION

SAT	The cervical margin is a smooth, continuous, well defined, 360 degree chamfer or rounded shoulder.
ACC	The cervical margin is continuous but slightly rough and lacks some definition. The cervical bevel, when used, is greater than 1.0 mm but does not exceed 1.5 mm, and lacks some definition.
SUB	The cervical margin has some continuity, is significantly rough and is poorly defined.
DEF	The cervical margin has no continuity and/or definition or exhibits an indication of a lip or "J" design.

#### LINE OF DRAW

SAT	The appropriate path of insertion varies less than 10° from parallel to the long axis of the tooth on all axial surfaces and a line of draw is established.
ACC	The path of insertion / line of draw deviates 10° to less than 20° from the long axis of the tooth.
SUB	The path of insertion / line of draw deviates 20° to less than 30° from the long axis of the tooth.
DEF	The path of insertion / line of draw is grossly unacceptable, deviating 30° or more from the long axis of the tooth.

## PORCELAIN-FUSED-TO-ZIRCONIA CROWN PREPARATION

### Tooth #5 - Walls, Taper and Finish Line

#### AXIAL WALLS – SMOOTHNESS/UNDERCUT

SAT	Walls are smooth and well-defined, no undercuts.
ACC	The walls are slightly rough and lack some definition.
SUB	The axial walls are rough.
DEF	There is an undercut.

#### TAPER

SAT	There is full visual taper ( $6^\circ$ - $16^\circ$ ).
ACC	Taper is present, but nearly parallel (less than $6^\circ$ ) or slightly excessive (greater than $16^\circ$ , but less than $24^\circ$ ).
SUB	There is no taper or excessive taper (greater than $24^\circ$ ).
DEF	The taper is grossly over-reduced (greater than $30^\circ$ ).

#### CERVICAL MARGIN WIDTH

SAT	The cervical margin is 0.5 mm but no greater than 1.0 mm wide.
ACC	The cervical margin is greater than 1.0 mm, but is no greater than 1.5 mm in width.
SUB	The cervical margin is [ ] greater than 1.5 mm. not to exceed 2.0 mm in width.
DEF	The cervical margin is [ ] less than 0.5 mm or beveled or [ ] greater than 2.0 mm in width.

#### FACIAL AXIAL REDUCTION

SAT	The facial and palatal wall reduction follows the facial planes of contour and is optimally 1.5 mm when measured at any point between the original height of contour and the facial-occlusal line angle.
ACC	The facial and palatal wall reduction follows the facial planes of contour and is no less than 1.0 mm and no greater than 2 mm.
SUB	The facial and palatal wall reduction no longer follows the facial/ planes of contour and is no less than 0.5 mm and no greater than 3.0 mm.
DEF	The facial and palatal wall axial reduction is less than .5mm or greater than 3 mm.

#### OCCLUSAL/AXIAL REDUCTION

SAT	Reduction of the occlusal wall, which includes secondary planes, is optimally 1.5 mm.
ACC	Reduction of the occlusal wall, which includes secondary planes, is greater than 1.5 mm up to 2.0 mm.
SUB	Reduction of the occlusal wall, which includes secondary planes, is [ ] 1.0 mm to less than 1.5 mm or [ ] greater than 2.0 mm up to 2.5 mm.
DEF	Reduction of the occlusal wall, which includes secondary planes, is grossly [ ] over-reduced, greater than 2.5 mm, encroaching on the pulp and impacting resistance and retention form; or grossly [ ] under-reduced, less than 1.0mm, resulting in insufficient occlusal clearance for adequate restorative material.

#### INTERNAL LINE ANGLES

SAT	Internal line angles and cusp tips are rounded.
ACC	Internal line angles and cusp tip areas not completely rounded and show a slight tendency of being sharp.
SUB	The internal line angles and cusp tip areas show only minimal evidence of rounding with a greater tendency of being sharp.
DEF	The internal line angles or cusp tip areas are excessively sharp with no evidence of rounding.

#### OCCLUSAL ANATOMY

SAT	Internal line angles and cusp tips are rounded.
SUB	The internal line angles and cusp tip areas show only minimal evidence of rounding with a greater tendency of being sharp.

## MONOLITHIC ZIRCONIA CERAMIC CROWN PREPARATION

### Tooth #3 - Cervical Margin and Draw

#### MARGIN/EXTENSION

SAT	The margins should be 0.5 mm occlusal to the simulated free gingival margin.
ACC	The cervical margin is at the level of or no more than 1.0 mm occlusal to the simulated free gingival margin.
SUB	The cervical margin is overextended 0.5 mm apical to the crest of the simulated free gingival margin. The cervical margin is under-extended, more than 1.0 mm but no more than 1.5 mm occlusal to the crest of the simulated free gingival margin.
DEF	The cervical margin is overextended more than 0.5 mm apical to the simulated free gingival margin causing visual damage to the typodont. The cervical margin is under-extended more than 1.5 mm occlusal to the simulated free gingival margin, thereby compromising esthetics, resistance and retention form.

#### MARGIN DEFINITION

SAT	The cervical margin is a smooth, continuous, well defined, 360 degree chamfer or rounded shoulder.
ACC	The cervical margin is continuous but slightly rough and lacks some definition.
SUB	The cervical margin has some continuity, is significantly rough and is poorly defined.
DEF	The cervical margin has no continuity and/or definition or exhibits an indication of a lip or "J" design.

#### LINE OF DRAW

SAT	The appropriate path of insertion varies less than 10° from parallel to the long axis of the tooth on all axial surfaces and a line of draw is established.
ACC	The path of insertion/line of draw deviates 10° to less than 20° from the long axis of the tooth.
SUB	The path of insertion/line of draw deviates 20° to less than 30° from the long axis of the tooth.
DEF	The path of insertion/line of draw deviates 30° or more from the long axis of the tooth.

# MONOLITHIC ZIRCONIA CERAMIC CROWN PREPARATION

## Tooth #3 - Walls, Taper and Finish Line

### AXIAL WALL-SMOOTHNESS/UNDERCUT

SAT	Walls are smooth and well-defined, no undercuts.
ACC	The walls are slightly rough and lack some definition.
SUB	The axial walls are rough.
DEF	There is an undercut.

### TAPER

SAT	There is full visual taper ( $6^\circ$ - $16^\circ$ ).
ACC	Taper is present, but nearly parallel (less than $6^\circ$ ) or slightly excessive (greater than $16^\circ$ , but less than $24^\circ$ ).
SUB	There is no taper or excessive taper (greater than $24^\circ$ ).
DEF	The taper is grossly over-reduced (greater than $30^\circ$ ).

### CERVICAL MARGIN WIDTH

SAT	The cervical margin is 0.5 mm but no greater than 1.0 mm in width.
ACC	The cervical margin is greater than 1.0 mm, but is no greater than 1.5 mm in width.
SUB	The cervical margin is [ ] less than 0.5 mm or [ ] greater than 1.5 mm, not to exceed 2.0 mm in width.
DEF	The cervical margin is [ ] knife-edge/beveled or [ ] greater than 2.0 mm in width.

### OCCLUSAL/AXIAL REDUCTION

SAT	Reduction of the occlusal, buccal, and palatal walls, which includes secondary planes, is optimally 1.5 mm.
ACC	Reduction of the occlusal, buccal, and palatal walls, which includes secondary planes, is greater than 1.5 mm up to 2 mm.
SUB	Reduction of the occlusal, buccal, and palatal walls, which includes secondary planes, is [ ] 1.0 mm to less than 1.5mm or [ ] greater than 2.0mm up to 2.5 mm.
DEF	Reduction of the occlusal, buccal, and palatal walls, which includes secondary planes, is grossly [ ] over-reduced, greater than 2.5 mm; or grossly [ ] under-reduced, less than 1.0 mm, resulting in insufficient occlusal clearance for adequate restorative material and/or [ ] any axial surface on the preparation is in contact with the matrix.

### INTERNAL LINE ANGLES

SAT	Internal line angles and cusp tips are rounded.
ACC	Internal line angles and cusp tip areas are not completely rounded and show a slight tendency of being sharp.
SUB	The internal line angles and cusp tip areas show only minimal evidence of rounding with a greater tendency of being sharp.
DEF	The internal line angles or cusp tip areas are excessively sharp with no evidence of rounding.

### OCCLUSAL ANATOMY

SAT	The general occlusal anatomy is maintained.
SUB	The occlusal anatomy is flat.

## BRIDGE FACTOR

### PATH OF INSERTION/LINE OF DRAW

SAT	A line of draw or path of insertion that would allow for the full seating of a fixed prosthesis in a direct vertical plane without rotation either mesio-distally or bucco-lingually.
ACC	A line of draw or path of insertion that, due to angulations of the surface of the preparations, would require altering the path of insertion both mesio-distally and/or bucco-lingually from a direct vertical axis to allow full seating.
DEF	No line of draw or path of insertion exists through any plane of rotation without the removal of additional tooth structure of either/both of the preparations.

## ANTERIOR LITHIUM DISILICATE CERAMIC CROWN PREPARATION

### MARGIN/EXTENSION

SAT	The cervical margin is placed 0.5 mm incisal to the simulated free gingival margin.
ACC	The cervical margin is at the level of or no more than 1.0 mm incisal to the simulated free gingival margin.
SUB	The cervical margin is overextended 0.5 mm apical to the crest of the simulated free gingival margin. The cervical margin is under-extended, more than 1.0 mm but no more than 1.5 mm incisal to the crest of the simulated free gingival margin.
DEF	The cervical margin is overextended more than 0.5 mm apical to the simulated free gingival margin causing visual damage to the typodont. The cervical margin is under-extended more than 1.5 mm incisal to the simulated free gingival margin, thereby compromising esthetics, resistance and retention form.

### MARGIN/DEFINITION

SAT	The cervical margin is a smooth, continuous, 360 degree chamfer or rounded shoulder, well-defined on all axial surfaces. The cervical margin exhibits no bevel.
ACC	The cervical margin is continuous but slightly rough and lacks some definition.
SUB	The cervical margin has some continuity, is significantly rough and is poorly defined.
DEF	The cervical margin is beveled, or exhibits an indication of a lip or "J" design or exhibits an external axial surface of 135° or greater (sloping shoulder).

### LINE OF DRAW

SAT	The appropriate path of insertion varies less than 10° from parallel to the long axis of the tooth on all axial surfaces and a line of draw is established.
ACC	The path of insertion / line of draw deviates 10° to less than 20° from the long axis of the tooth.
SUB	The path of insertion / line of draw deviates 20° to less than 30° from the long axis of the tooth.
DEF	The path of insertion / line of draw is grossly unacceptable, deviating 30° or more from the long axis of the tooth.

## ANTERIOR LITHIUM DISILICATE CERAMIC CROWN PREPARATION

### Tooth #9 - Walls, Taper and Finish Line

#### AXIAL WALLS – SMOOTHNESS/UNDERCUT

SAT	Walls are smooth and well-defined, no undercuts.
ACC	The walls are slightly rough and lack some definition.
SUB	The axial walls are rough.
DEF	There is an undercut.

#### TAPER

SAT	There is full visual taper ( $6^\circ$ - $16^\circ$ ).
ACC	Taper is present, but nearly parallel (less than $6^\circ$ ) or slightly excessive (greater than $16^\circ$ , but less than $24^\circ$ ).
SUB	There is no taper or excessive taper (greater than $24^\circ$ ).
DEF	The taper is grossly over-reduced (greater than $30^\circ$ ).

#### CERVICAL MARGIN WIDTH

SAT	The cervical margin is optimally 1.0 mm in width.
ACC	The cervical margin is greater than 1.0 mm, but not more than 1.5 mm in width.
SUB	The cervical margin is [ $>0.5$ ] mm to less than 1.0 mm or [ $>$ ] greater than 1.5 mm, not to exceed 2.0 mm in width.
DEF	The cervical margin is less than 0.5 mm or more than 2.0 mm in width.

#### INCISAL REDUCTION

SAT	The optimal incisal reduction is 2.0 mm.
ACC	The incisal reduction is not less than 1.5 mm or not more than 2.5 mm.
SUB	The incisal reduction is less than 1.5 mm or up to 3.0 mm.
DEF	The incisal reduction is less than 1.0 mm or more than 3.0 mm.

#### LINGUAL FOSSA REDUCTION

SAT	The lingual reduction is ideally 1.0 mm.
ACC	The lingual reduction is greater than 1.00 mm up to 1.5 mm.
SUB	The lingual reduction is [ $>0.5$ ] mm or greater but less than 1.00 mm or [ $>$ ] greater than 1.5 mm but less than 2.0 mm.
DEF	The lingual reduction is less than .5mm or 2.0 mm or greater.

#### LINGUAL WALL HEIGHT

SAT	The lingual wall height is optimally 1.5 mm or more.
ACC	The lingual wall height is 1.0 to less than 1.5 mm.
SUB	The lingual wall height is 0.5 to less than 1.0 mm.
DEF	The lingual wall height is less than 0.5 mm.

#### FACIAL AXIAL REDUCTION

SAT	The facial reduction follows the facial planes of contour and is optimally 1.5 mm when measured at any point between the original height of contour and the incisal edge.
ACC	The facial reduction follows the facial planes of contour and is no less than 1.0 mm and no greater than 2 mm.
SUB	The facial reduction no longer follows the facial planes of contour and is no less than 0.5 mm and no greater than 3.0 mm.
DEF	The facial axial reduction is less than 0.5mm or greater than 3 mm.

#### EXTERNAL/INTERNAL LINE ANGLES

SAT	Internal line angles and external line angles are rounded and smooth.
ACC	External and/or internal line angles are rounded, but irregular.
SUB	External and internal line angles are sharp.
DEF	The external and/or internal line angles are excessively sharp with no evidence of rounding.

## **FIXED PROSTHODONTIC SIMULATED PATIENT PROCEDURES**

### **Treatment Management**

#### **Penalty Points ONLY**

#### **CONDITION OF ADJACENT TEETH**

SAT	The adjacent teeth and/or restorations are free from damage.
ACC	Damage to adjacent tooth/teeth can be removed with polishing without adversely altering the shape of the contour and/or contact.
SUB	Damage to adjacent tooth/teeth requires recontouring which changes the shape and/or position of the contact.
DEF	There is gross damage to adjacent tooth/teeth which requires a restoration.

#### **CONDITION OF SOFT TISSUE**

SAT	The simulated gingiva and/or typodont is/are free from damage.
ACC	There is slight damage to simulated gingiva and/or typodont consistent with the procedure.
SUB	There is iatrogenic damage to the simulated gingiva and/or typodont inconsistent with the procedure.
DEF	There is gross iatrogenic damage to the simulated gingiva and/or typodont inconsistent with the procedure.

#### **CRITICAL ERRORS**

1. Wrong Tooth/Surface Treated

**CRDTS**

Place Candidate label here

## **FIXED PROSTHODONTIC PROCEDURES**

**NOTE:** A single box must be signed by a Clinic Floor Examiner. A triple box must be signed by three examiners at the Evaluation Station.

CRDTS will provide the candidate with a box containing two fixed prosthodontic modules. These modules will contain artificial single-layered teeth on which the candidate must complete a Anterior Lithium Disilicate Ceramic Crown Preparation on tooth #9, a Porcelain-Fused-To Zirconia Crown Preparation on tooth #5 and a Monolithic Zirconia Ceramic Crown Preparation on tooth #3. Teeth #5 and #3 must also be prepared as abutment teeth for a 3-unit bridge. When the modules are received, the **candidate's 3-digit candidate number must immediately be etched onto the lingual surfaces of the modules with a bur** and they must be inserted into the Acidental carrier tray. There will be an extra label with the candidate's number on it inside the box; the label and the foam packing must be retained. A Clinic Floor Examiner must approve the mounting of the typodont; the typodont may be dismantled only with the authorization of a Clinic Floor Examiner.

CFE	<b>TYPODONT MOUNTING Modules Labeled with Cand #</b>
CFE	<b>MATRICES ACCEPTABLE</b>

When the preparations are complete and ready for evaluation, the candidate must request permission from the Clinic Floor Examiner to dismantle the manikin and remove the fixed prosthodontic modules from the carrier trays. Put the two modules with the crown preparations and matrices in the labeled box provided by CRDTS and be sure the Fixed Prosthodontic Progress Form for the crown preparations is collected by the Clinic Floor Examiner.

**CFE AUTHORIZES DISMANTLING TYPODONT  
CFE Collects Modules, Progress Form**

			<b>FINAL EVAL FIXED PROSTHODONTIC PROCEDURES</b>
Examiner #1	Examiner #2	Examiner #3	

**NOTES and COMMENTS:**

Candidates:	Examiners Only:

©Central Regional Dental Testing Service

**MUST BE COMPLETED IN BLACK OR BLUE INK**